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". . . Springing Originally from Magic and Superstition, and Surviving the Influence of Alchemy, Modern Pharmacy Has Come to Be a Specialized Calling That Has Reached the Dignity of a True Profession . . ."—*From the Pharmacy Week Message of President* Franklin D. Roosevelt.

Vol. XXII, No. 10 OCTOBER, 1933

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

TRADE MARK

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THE 82nd ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN WASHINGTON, D. C.

The 1934 Meetings of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, Conference of Pharmaceutical Association Secretaries, of the Pharmaceutical Law Enforcement Officials and the Plant Science Seminar will also be held in Washington.

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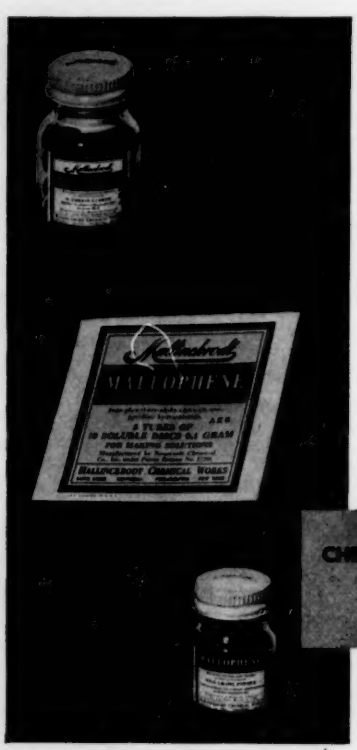

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PHARMACY WEEK PROCLAMATION OF WILLIAM LANGER, GOVERNOR OF NORTH DAKOTA.

AS spokesman both for myself and for the people of North Dakota, I want to say that I consider it a high privilege to set aside this week in honor of the profession of pharmacy and its practitioners. This is a profession which quietly, and without what we know in our modern vernacular as "ballyhoo," has devoted itself to the preservation of the nation's health; the profession which numbers among its followers some of the real heroes of contemporary history.

When I say "heroes" I mean the druggist in the little Arkansas town who was called upon by his fellow citizens to join them in taking to the hills, while the flooding waters of the Mississippi swirled on the floor of his store. This druggist's answer was to move his medicines to the highest shelves and to lay a new floor composed of boards laid from counter to counter. The people needed medicines, and he stood by, preserving them from the greedy river, I mean the pharmacists, numberless, who during the great "flu" scourge, abandoned sleep to stand unseen in the back of their stores to fill the unprecedented rush of prescriptions. There is no doubt but that a great number of them sacrificed not only health, but life, in so doing.

I mean, also, and perhaps with even a warmer gratitude, because I have been closest to him, the small town druggist who has helped so materially to build up North Dakota; the kindly citizen who stands ready to do anything, from dispensing cough syrup to giving ether while the country doctor performs an emergency operation.

Millionaire philanthropists are lauded in headlines every time they part with one of their many millions to endow a college or camp. Some day, I hope to see in the biggest, blackest type there exists a list of those pharmacists whose fortunes were slowly, unspectacularly, dissipated in the form of little bottles of cough syrup and croup vaporizers to save the lives of babies whose parents were too poorly paid, and often too harassed even to give thanks.

I am proud to have the privilege of setting aside this week to honor the pharmacists of our country.

WILLIAM LANGER,
Governor of North Dakota.

ROBERT LEE SWAIN.

President of the A. PH. A., 1933–1934.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XXII OCTOBER, 1933 No. 10

ROBERT LEE SWAIN.

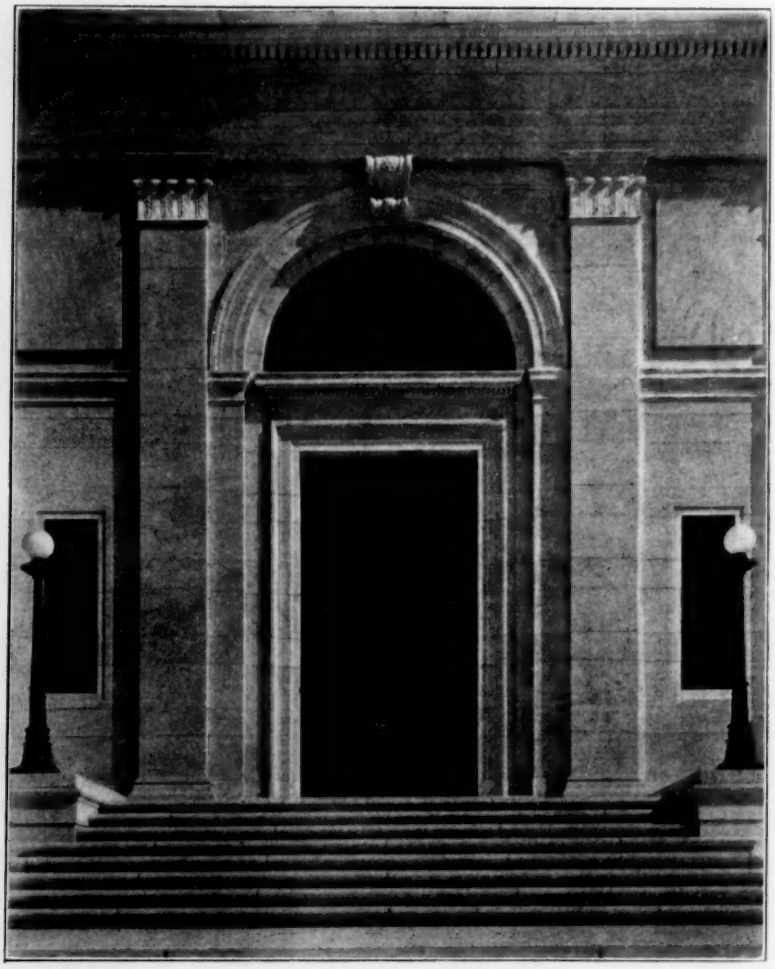
The president of the AMERICAN PHARMACEUTICAL ASSOCIATION, Robert Lee Swain, is a native of Delaware. He was born September 29, 1887, at Redden, Sussex County, son of the late Rev. C. P. Swain and Martha H. (Messick) Swain. He received his earlier education in Delaware and is a graduate of Dover High School. Soon after graduating in pharmacy from the University of Maryland, School of Pharmacy, Dr. Swain purchased a drug store in Sykesville, which he conducted until 1927, when other duties made it necessary to dispose of it.

In 1920, upon recommendation of Maryland Pharmaceutical Association, Dr. Swain was appointed a member of the State Board of Pharmacy by Governor Albert C. Ritchie and reappointed by him in 1925; since that time he has served as its secretary-treasurer. He was elected Deputy Food and Drug Commissioner in 1922 and has been continued in that important office since that time.

Dr. Swain has been deeply interested in and associated with pharmaceutical organizations during all of his professional life—in local, state and national affairs relating to the promotion and advancement of pharmacy. He is a member of the Maryland Pharmaceutical Association and editor of its official publication the *Maryland Pharmacist.*

President Swain became a member of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1909, the year of his graduation, and served for two years as president of the Baltimore Branch. He was elected vice-chairman of the House of Delegates, A. PH. A., in 1928, and chairman in 1929. The experience gained in his duties on the Board of Health suggested to him the need for closer contacts between pharmaceutical enforcement officials of the several states. This led to the organization of the Conference of Pharmaceutical Law Enforcement Officials in 1929, of which he was elected first chariman and reëlected since then. He has been a member of and a chairman of important committees within the ASSOCIATION and of associated and related organizations. His work for securing a Pharmacy Corps in the U. S. Army and, more recently, his efforts on the provisions of the NRA Code for and in behalf of pharmacy and pharmacists, and those served, have received well-earned com-

mendations. Also, he has gained favorable recognition for his part in recent drug store and prescription surveys, and related work, which promise a better understanding of pharmaceutical and drug-trade activities. President Swain earned the degree of Bachelor of Laws from the University of Maryland and is a member of the faculty of Temple University, having been appointed to the Chair of Pharmaceutical Law.



Entrance to the American Institute of Pharmacy. The dedicatory lines above the entrance read: "This building is dedicated to those who have contributed their knowledge and endeavor to the preservation of public health and to the further advancement of science in pharmacy—AMERICAN PHARMACEUTICAL ASSOCIATION."

The first Finnish pharmacies were founded in 1689; an independent institution of pharmacy existed in Sweden, dating back to 1623. There are earlier records in both countries and it is known that the Swedish Court possessed a Court pharmacy during the early part of the 15th century.

EDITORIAL

E. G. EBERLE, EDITOR 10 West Chase Street, BALTIMORE, MD.

COMPLETION OF THE HEADQUARTERS BUILDING.

THE records of the ASSOCIATION show that a home for the organization has been an ideal for many years. A place where its efforts could be consolidated and enlarged and where its valuable records and possessions could be collected and preserved. American pharmacy has lost materially by not having such a central home. The proposal has been considered and discussed on many occasions.

After twelve years of continuous arduous labor the Headquarters Building, the first unit of the American Institute of Pharmacy, is completed and will be occupied before the end of the year. During the interval, very important work has been done for pharmacy, much of which is not apparent. The beautiful building and its splendid location are the visible results and fully justify all the thought and effort and expense that have been so generously given to the undertaking.

Every one interested in pharmacy, either as a profession or as an industry, should carefully read Council Letter No. 3 as printed under "Association Business" of this issue of the JOURNAL. Here is recorded, in brief, the final results of the struggle to erect a headquarters building and to locate it in keeping with the ideals and accomplishments of the profession and the industry.

The Federal Government has shown its confidence in pharmacy on several occasions by entrusting very important duties to the profession. In permitting the ASSOCIATION to occupy this site and in coöperating with it so effectively toward completing the undertaking on a much more splendid basis than had been originally planned, the Government has complimented and assisted pharmacy in a very handsome and practical manner.

To bring all this about has called for much planning and effort and as is usually true of worth-while work, some friction and misunderstanding. Patience and a just cause have brought a most satisfactory result.

The following quotation taken from a letter from Chairman Charles Moore of the Commission of Fine Arts to the secretary indicates that the governmental authorities are also pleased with the result:

> "The Commission of Fine Arts at their meeting on October 6, 1933, had pleasure in visiting the headquarters building of the AMERICAN PHARMACEUTICAL ASSOCIATION, designed by John Russell Pope. The Commission can congratulate you and through you, the AMERICAN PHARMACEUTICAL ASSOCIATION, on the successful completion of this difficult and at times perplexing project. The building is an adequate and fitting portion of the frame of the Lincoln Memorial. For the hearty coöperation the ASSOCIATION has shown to bring about this result, this Commission express their appreciation and thanks."

Amerian Pharmacy now has a home beautiful in design and practical in construction, located for its purpose in one of the most commanding and probably the most desirable sites in the national capital. It is in the midst of the several govern-

1921
le

mental institutions devoted to public health and in a district visited annually by thousands of persons from every section of this nation and from every country in the world.

Beyond the utilitarian value of the institution no effort could contribute more to a better understanding of pharmacy and its service to the public and to the stability and strength of the profession.

As was reported at the Madison meeting a splendid building and equipment for the Research Laboratories will be furnished by a devoted and generous member of the ASSOCIATION, after the central building is occupied. When this is completed, the institution will have a Reference Library, an Historical Museum and a Research Laboratory, as well as working offices for the ASSOCIATION and its related organizations, in keeping with its part in public health and public service.

When American Pharmacy dedicates the first building, in 1934, it will not only mark the completion of a splendid undertaking but will, through this equipment and contact, take its rightful place among the public-health professions.—E. F. K.

THE PRESIDENT'S RESPONSIBILITY AND YOURS.

AS president of the AMERICAN PHARMACEUTICAL ASSOCIATION, I recognize and accept the responsibility that goes with this high office. I shall do all in my power to uphold the principles to which the ASSOCIATION has long been devoted. I shall lend every possible aid and assistance to the advancement of Pharmacy, and to a betterment of the conditions under which the pharmacist carries on his work. It shall be my pleasure to participate as completely as I know how in every plan for the professional and economic uplift of Pharmacy. The presidency, as I see it, should be embraced as a great opportunity for serious and careful work.

First of all, I shall seek to arouse increased interest in the work of the ASSOCIATION among the pharmacists of the country, to invite a greater number of them to become members, and to urge them to take an active part in its affairs. I shall do this because I feel deeply the great need of making pharmacists as a class more familiar with the ideals and principles which have guided the ASSOCIATION through the years. There never was a time when pharmacists needed to see things from a more fundamental point of view. There is grave danger that Pharmacy may be permanently impaired by unregulated and unrestrained commercial exploitation. There are tendencies which must be curbed if Pharmacy is to measure up to its public and professional obligations. There are forces which must be subordinated if the drug store is to continue to merit public confidence and esteem. The future of the drug store, in my honest and deliberate opinion, depends almost entirely upon its ability to move in the direction the AMERICAN PHARMACEUTICAL ASSOCIATION has from time to time pointed out. The ASSOCIATION must be seen in the light of its great service in the past, and as the embodiment of the ideals which must be accepted as a guiding force in the future.

The ASSOCIATION should embrace a greater number of retail pharmacists. An increase in membership will enhance the value of the work which the ASSOCIATION is doing. A larger membership will also put the ASSOCIATION in a stronger position,

and will enable it to do a more effective work. While every one looks instinctively to the AMERICAN PHARMACEUTICAL ASSOCIATION to point the right direction, to build professional prestige and to maintain sound professional standards, the ASSOCIATION has not had the numerical strength in keeping with the task it is confidently looked to to perform. The inconsistency between the great importance of the work of the ASSOCIATION and the size of its membership constitutes a challenge which must be met.

I believe that once pharmacists are made more fully acquainted with the work of the ASSOCIATION they will give it magnificent support. With the completion of the headquarters building in Washington, the ASSOCIATION enters upon a career of widened influence and greater usefulness. It should be possible to develop the ASSOCIATION so as to include many services which have not been possible heretofore. Plans are now being worked out for making the ASSOCIATION more vital to the work of the pharmacist. These plans will be greatly aided by increased membership, by more adequate financial support and by a more earnest interest and coöperation upon the part of pharmacists as a class.

The AMERICAN PHARMACEUTICAL ASSOCIATION deserves the whole-hearted support of every one interested in the development of Pharmacy on sound professional and economic lines.

As president, I earnestly urge you, as members, to coöperate with me in bringing the ASSOCIATION more closely to the attention of the pharmacists of the country. Your responsibility is fully as great as mine.—ROBERT L. SWAIN, *President.*

CRAWFORD W. LONG, PHYSICIAN-PHARMACIST, DISCOVERER OF ETHER ANESTHESIA

MANY articles have appeared in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, a number of greater length by the late Joseph Jacobs, an apprentice in the pharmacy of Dr. Long in Athens, Ga.—on priority of the use of ether anesthesia in surgical operations. Reference is made at this time, because in an article of the public press Dr. W. T. G. Morton was given the credit which rightly belongs to Dr. Long. The latter was the first one (1842) to use ether for producing surgical narcosis, the former was the first to demonstrate its use (1846) before a professional gathering. Let it be remembered, however, Dr. Long performed several surgical operations prior to 1846, in Jefferson, Ga., two on James Venable.

Physicians and surgeons of other countries acknowledged Dr. Long's priority in the use of ether for anesthesia; for example, when King Edward VII had recovered consciousness after an operation, he asked: "Who discovered anesthesia?" The answer which he received from the surgeon was: "Dr. Crawford Long, Your Majesty."

Dr. Long graduated from the University of Georgia in 1835 (then Franklin College); he attended Transylvania University (Lexington, Ky.) and graduated from the University of Pennsylvania in 1839. After practicing in New York Hospitals for 18 months, he returned to Georgia (Jefferson) and in 1851 moved to Athens, where he practiced until his demise, June 16, 1878, aged 63 years.

SCIENTIFIC SECTION

BOARD OF REVIEW OF PAPERS.—*Chairman*, L. W. Rowe, George D. Beal, F. F. Berg, C. O. Lee, E. V. Lynn, John C. Krantz, Jr., Heber W. Youngken.

FLUIDEXTRACT OF ERGOT.*

BY L. W. ROWE AND WILBUR L. SCOVILLE.

The present paper is a continuation of the work reported to this Section two years ago.

In January 1932, a second series of fluidextracts was made from a defatted ergot by the repercolation process. No heat was used in making these fluidextracts.

Three menstrua were used, *viz.*, Diluted alcohol, 77% alcohol (alcohol 4 vols., water 1 vol.) and 87% alcohol (alcohol 9 vols., water 1 vol.).

For Series A, 750 cc. of Fluidextract was made using Diluted Alcohol. This was divided into three parts, to one of which—labeled "A"—was added sufficient hydrochloric acid to produce a p_H of 2.85. To a second portion—"A 1"—was added enough tartaric acid to produce a p_H of 3.15. To the third portion—"A 2"—was added sufficient 50% hypophosphorous acid to produce a p_H of 2.97.

Each of the above was filled into (8) 1-oz. amber-glass bottles, two of which were stored in a refrigerator, and the rest on the laboratory shelf at room temperatures.

The second series corresponds to the first except that the initial fluidextract was made with 77% alcohol as the menstruum, and one-third of the product was adjusted to a p_H of about 3.0 with hydrochloric acid, the second third with tartaric acid, and the third with hypophosphorous acid, being labeled "B," "B 1" and "B 2."

The third series was similarly made with a menstruum of 87% alcohol, and correspondingly adjusted with the same three acids, and labeled "C," "C 1" and "C 2."

The fourth series, of 300 cc., was also made with a menstruum of 87% alcohol and divided into two portions. The first portion was stored (in 1-oz. bottles) without further addition or adjustment and to the second portion was added 0.2% w-v. of cysteine hydrochloride. All were stored in 1-oz. amber-glass bottles.

Since the main purpose of these experiments was to ascertain the relative stability of the preparations, and the effectiveness of the stabilizing materials used, it was deemed unnecessary to assay, at the beginning, more than one sample of each series, it being assumed that all represented the same percolate. Also each of the B series, and the C series and the D series would be of the same strength, since each was a portion of the corresponding percolate.

At the end of about a year a sample of each was assayed, these samples having been stored at room temperature. The Cock's Comb method of assay was employed in all cases.

The following table summarizes the results.

---

* Scientific Section, A. PH. A., Madison meeting, 1933.

FLUIDEXTRACT OF ERGOT.

Series.	Menst.	Stabilizing Agent.	p_H.	First Assay.	Second Assay.
A	49% Alc.	HCl	2.85	120 %	110%
A1	.....	H_2Ta	3.15	(120)%	100%
A2	.....	HPH_2O_2	2.97	(120)%	120%
B	77% Alc.	HCl	2.90	75 %	65%
B1	.....	H_2Ta	3.18	(75)%	80%
B2	.....	HPH_2O_2	3.06	(75)%	80%
C	87% Alc.	HCl	2.50	75 %	75%
C1	.....	H_2Ta	3.35	(75)%	75%
C2	.....	HPH_2O_2	3.03	(75)%	65%
D	87% Alc.	None	5.60	75 %	75%
D1	.....	Cryst. hyd.	5.20	(75)%	80%

Two samples made in November 1930, and stabilized with hypophosphorous acid were reassayed, with the following results.

No. 1.—Assay Nov. 1930, 125%; May 1931, 125%; Nov. 1932, 120%.

No. 2.—Assay Nov. 1930, 125%; May 1931, 125%; Nov. 1932, 120%.

One cannot draw positive and final conclusions from so few experiments when all are not in harmony, but the above results indicate with reasonable agreement the following:

Stronger alcoholic menstrua exert a stabilizing influence, but add greatly to the difficulty of extraction. Ergot is a difficult drug to extract, and yields to aqueous menstrua more readily than to alcoholic. This may explain the continued favor of aqueous preparations of ergot. When fresh they may represent the drug in fuller measure than alcoholic extracts.

We may also note that Moir of England claims that ergot has an action upon the uterus which is not due to its alkaloids but is caused by an undiscovered water-soluble substance. While his claims have not yet been confirmed he is too prominent to be ignored, and it may not be wise to shut the official door upon low-alcoholic preparations.

We also have to consider that while ergot contains alkaloids which are not themselves soluble in water, they probably are soluble in an aqueous extract of the drug, particularly when acidulated.

In view of the greater efficiency in extraction, and its probable inclusion of all the active principles, it seems wise to adhere to the present alcoholic strength of menstruum (for this revision).

An acidity equivalent to a p_H of about 3 is generally accepted as adding to stability by most of the workers on this preparation. The above results also confirm the opinion that an acid which has a reducing action is better than one which does not. Thus tartaric and hypophosphorous acids show a greater stabilizing action than does hydrochloric acid. The (new) British Pharmacopœia uses tartaric acid—in rather indefinite amount—in its Liquid Extract of Ergot.

In the above experiments—and those made two years ago—hypophosphorous acid seems to be the more effective stabilizer. Since this is a strong reducing agent its influence is but logical.

It is well to bear in mind that the methods of standardizing ergot are the least satisfactory of any in use. A variation of 20% is not considered unreasonable by the official method.

The assays on the preparations herein reported were all made by one of us (L. W. R.), who has had considerable experience with the official Cock's Comb method as well as with the Broom and Clark method. Some prefer the Broom and Clark method, in which the inhibiting action of ergot is observed on a strip of rabbit-uterus muscle—but a considerable margin of error is acknowledged for it.

The British Pharmacopœia has adopted the colorimetric determination of alkaloids by chemical methods, on the ground that while this includes both the inactive and active alkaloids the error "is probably less" than is found in biological methods.

These facts are mentioned simply to make plain that the activity figures in the above table cannot be taken with the same confidence as in the chemical assays of other alkaloidal drugs. Some of these assays were repeated because the second assay showed a materially higher activity than the first—which is, of course, contradictory. In such cases the lower figure of the (repeated) assays is given. In all tests at least two roosters were used and in several cases three, for each test.

The best prospect seems to be to use diluted alcohol with hypophosphorous acid for this preparation. In the sample prepared two years ago an equivalent of 40 cc. of U. S. P. Hypophosphorous Acid (30%) per liter was needed to produce a p_H of 4.15. In the one made a year ago—and reported in the above table an equivalent of 26 cc. per liter was required.

With tartaric acid, the sample in the table contains 30 Gm. per liter.

Better results in extraction may be expected when the acid is used in the menstruum rather than added to the fluidextract. The amount of acid to be directed will vary with the alcoholic strength of the menstruum—less being needed for high strength alcohol than for low.

RESEARCH LABORATORIES OF PARKE, DAVIS & CO.,
DETROIT, MICH.

THE STANDARDIZATION OF ERGOT.*[1]

BY ASA N. STEVENS.

A COMPARATIVE STUDY OF THE BRITISH PHARMACOPŒIA ASSAY FOR EXTRACTUM ERGOTÆ LIQUIDUM AND THE MODIFICATION OF SMITH'S QUANTITATIVE COLORIMETRIC ASSAY.

A colorimetric method of assay for Ergot and its preparations is given official recognition in the recently revised "British Pharmacopœia 1932." The close relationship that exists between the British Pharmacopœia assay for Liquid Extract of Ergot and the Modification of Smith's Quantitative Colorimetric (1) Assay, which was outlined by the writer in an earlier paper, has made it desirable to undertake a comparative study of the two methods as they apply to the assay of Fluidextract of Ergot U. S. P.

It is the purpose of this paper, therefore, to present and to compare the results that have been obtained by the use of both methods.

---

* Scientific Section, A. PH. A., Madison meeting, 1933.

[1] From the Analytical Laboratories, Eli Lilly & Co.

The assay procedure now given in the British Pharmacopœia for Liquid Extract of Ergot is quoted as follows:

"Assay: Introduce 10 mls. into a separator, add 50 mls. of water, render slightly alkaline with dilute solution of ammonia, and extract with four successive portions of 40, 25, 20 and 15 mls. of anæsthetic ether. Wash the mixed ethereal solutions with three successive portions of 25 mls. of water mixed with 0.2 mls. of dilute solution of ammonia, then wash once with 25 mls. of water. Shake with four successive 10-ml. portions of a 1% w/v solution of tartaric acid in water: separate, and mix the aqueous liquids, transfer to a porcelain dish, remove the dissolved ether by gentle warming in a current of air and add sufficient water to produce 40 mls. or other suitable volume. Mix 1 ml. with 2 mls. of solution of dimethylaminobenzaldehyde and place in warm water until the temperature reaches 45 degrees. Remove from the water-bath and expose to bright light for a period varying from 10 minutes to two hours, according to the intensity of the light, until the blue-violet colour which is produced reaches its maximum. In the same manner mix 1 ml. of solution of ergotoxine ethanesulphonate (0.012% w/v in 1% tartaric acid) with 2 mls. of solution of dimethylaminobenzaldehyde, heat to 45 degrees and expose to the same source of light for the same length of time. Determine the ratio of the colour intensities by comparing them in a suitable colorimeter. The colour produced by 1 ml. of the solution of ergotoxine ethanesulphonate is equivalent to that produced by 0.0001 Gm. of total alkaloids under identical conditions. The acid solution of the alkaloids should be suitably diluted so that the colour, produced during the test, does not differ by more than 20% from that produced in the solution of ergotoxine ethanesulphonate."

The details of the Modification of Smith's Quantitative Colorimetric Assay are given in the February 1933 issue of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION on page 102 and are not repeated at this time.

Table I shows the results obtained by the use of both methods on the same samples of Fluidextract of Ergot.

TABLE I.

Sample No.	Modified Method % Activity.	B. P. Method % Activity.
1	114.0	130.0
2	100.0	100.0
3	115.0	108.0
4	90.0	93.0
5	115.0	95.0
6	103.0	103.0
7	57.0	53.0
8	80.0	73.0
9	95.0	94.0
10	115.0	115.0
Average	98.4	96.4

It will be noted that in nearly every case there is a close agreement in the results that have been obtained, notwithstanding the fact that each method differs with regard to the amount of the alkaloidal salt that is used as the basis for color comparison. In the British Pharmacopœia method 0.00012 Gm. of ergotoxine ethanesulphonate is given as the standard while in the Modification of Smith's Quantitative Colorimetric Assay 0.0001 Gm. of ergotamine tartrate is used.

With this thought in mind, a series of tests were made in order to study the behavior of the foregoing quantities of ergotoxine ethanesulphonate and of ergotamine tartrate when used, separately, as standards in only one of the two methods. For this purpose the British Pharmacopœia method was selected and the procedure changed in order to permit the use of a Watkins' (2) extractor, instead of a sepa-

rator, for making the first ether extraction, thereby avoiding the tendency to form emulsions. Also, the acid solution of dimethylaminobenzaldehyde and alkaloid was not heated. The results obtained on a series of samples of Fluidextract of Ergot U. S. P. are given in Table II.

TABLE II.

Sample No.	Ergotoxine Ethanesulphonate % Activity.	Ergotamine Tartrate % Activity.
1	92.0	106.0
2	80.0	100.0
3	49.8	52.5
4	89.5	106.0
5	100.0	102.0
6	64.0	72.0
7	95.0	104.0
8	80.0	83.0
9	52.0	64.0
Average	78.0	87.7

DISCUSSION.

It will be noted in Table I that slightly lower results are generally obtained by the British Pharmacopœia method. The British Pharmacopœia standard also gives consistently lower figures when compared with the Modification of Smith's Quantitative Colorimetric Assay's standard as is indicated by Table II. This is probably due to the fact that the British Pharmacopœia method calls for a correspondingly larger amount of an alkaloidal salt of ergot as the basis for color comparison. When the prescribed quantities of the two standards were subjected to colorimetric comparison in 1 cc. of 1% tartaric acid solution, 0.0001 Gm. of ergotamine tartrate was found to have a color value equal to about 80% of that shown by 0.00012 Gm. of ergotoxine ethanesulphonate. On the other hand, when exactly the same concentrations of the two salts were compared on the same basis the readings obtained were identical.

The use of 50% sulphuric acid, which is prescribed by the British Pharmacopœia as the solvent for dimethylaminobenzaldehyde, offers a distinct advantage over the concentrated acid that is used in the Modification of Smith's Quantitative Colorimetric Assay in that very little heat is developed when the solution is added to the solution containing the ergot alkaloid. This does away with the necessity of chilling the mixture which is always required in the Modification of Smith's Colorimetric Assay procedure.

A better blue color is obtained if the solution of dimethylaminobenzaldehyde and alkaloid is not heated.

CONCLUSIONS.

1. A comparative study has been made between the British Pharmacopœia assay method for Liquid Extract of Ergot and the Modification of Smith's Quantitative Colorimetric Assay as they are applied to the assay of Fluidextract of Ergot U. S. P.

2. A difference in the amount of alkaloidal salt used as the basis for colorimetric comparison has been pointed out.

3. The use of 50% sulphuric acid as the solvent for dimethylaminobenzaldehyde and of a Watkins' extractor in making the first ether extraction have been cited as advantages.

4. A better blue color is obtained if the solution of dimethylaminobenzaldehyde and alkaloid is not heated.

The author wishes to express his appreciation to Mr. E. J. Hughes for his friendly criticism.

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LACTUCARIA. I. THE MYDRIATIC ACTIVITY OF LACTUCARIA BY THE MUNCH METHOD.*[1]

BY JAMES C. MUNCH, HARRY J. PRATT AND GEORGE E. BYERS.

Lactucarium is the "dried milk-juice of *lactuca virosa* Linné (Fam. *Compositæ*)" (34). It was official from the First U. S. P. in 1820 to the Ninth of 1916, but was dropped from the recognized drugs in U. S. P. X (24). It has been used in homeopathic medicine in which it is described as the concrete juice of *L. virosa*, *L. sativa*, *L. scariola* and *L. altissima* (1, 20).

If lactucarium were capable of producing the effects attributed to it, it would be very miraculous. Descriptions in Folklore and in early scientific papers affirmed that it was a sedative, resembled opium in its effect, could be used as a substitute for opium, and later still that it contained hyoscyamine or some of the other mydriatic alkaloids (2, 3, 4, 8, 9, 10, 11, 12, 18, 22, 23, 25, 28, 29, 30, 31, 32, 35, 36, 37).

Apparently, the introduction of lactucarium as the dried juice of *L. virosa* was due to some inconclusive experiments by John Redman Coxe, presented at the meeting of the American Philosophical Society in 1797, at Philadelphia. Comparing the effects with those of opium, he decided that the two were similar in action, and called the material "lettuce opium." A careful scrutiny of his report fails to show any basis for this startling deduction (8, 9). Work by Duncan, Sr., in Edinburgh at about the same time appears to be responsible for the introduction of this product into the Dublin and Edinburgh Pharmacopœias (11).

To prepare lactucarium, various species of *lactuca* appear to have been used (*virosa*, *scariola*, *sativa*, *canadensis*, *septiva* and *altissima*, being most frequently reported (1, 2, 6, 7, 8, 12, 14, 16, 19, 20, 21)).

The juice is collected by cutting off the top of the lettuce plant in June, when it is just ready to blossom. The latex is collected daily. As needed, new incisions are made in the stalk. The combined latex is dried, forming irregular brown lumps of a narcotic odor and bitter taste (6, 24, 37).

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* Scientific Section, A. PH. A., Madison meeting, 1933.

[1] Joint communication from the Department of Research, School of Pharmacy, Temple University, and Department of Pharmacology, Sharp and Dohme, Philadelphia, Pa.

A number of active principles have been reported, most of them proving to be impure mixtures on further study. No agreement has been found regarding one specific principle to which the activity may be ascribed. Various extractives have been called lactucin, lactopicrin, lactucic acid, lactucerin, lactucone, lactucerol. In addition, oxalic acid, mannite and other materials have been observed (2, 5, 6, 7, 13, 14, 15, 16, 18, 22, 25, 28, 31, 35, 37, 38).

Adulteration of lactucarium has been reported with bread crumbs (22), gum opium and other materials of similar appearance.

The popular belief has been encountered in various parts of the world that the consumption of lettuce produces a sedative or soporific effect. It is impossible to determine exactly what products were used, but it would appear that many of the earlier reports alleging narcotic activity were conducted on material which was not chemically or pharmacognostically identified. Hirschfeld (19) in 1833 reported observations on sparrows, other birds and rabbits, as well as a few tests on man, concluding that the principal narcotic substance was volatile and recommended the use of lactucarium for various convulsions, coughs and spasms. Many of the older encyclopedias and books refer to the hypnotic or sleep-producing effect and this has been occasionally reprinted without confirmation in recent texts (1, 3, 11, 29, 30, 31, 32, 36, 37).

Cushny states that $^1/_2$ ounce failed to cause any effects on a dog. Wood and Bache were unable to produce any results with doses of 10 to 20 grains or more. Sollmann states that the reputation of lettuce as a hypnotic is probably undeserved as Kelterborn took 12 Gm. of lactucarium without any effect (10, 30, 37).

A commercial mixture has been found containing 0.5 mg. of morphine sulphate with 60 mg. of lactucarium and other constituents: this type of product may be the type which has been reported to be effective (33).

So far as the mydriatic activity is concerned, the earliest reference found was Ludwig, who suggests that "Giftlattick" should be capable of constricting the pupil. This served as the basis of an investigation by Gerber in 1863: applied externally or internally lactucarium did not influence the diameter of pupils of rabbits (17).

Dymond (13) made a chemical examination of an extract of *L. virosa* and obtained a very small amount of a substance which he identified by chemical properties as hyoscyamine. Braithwaite and Stevenson (5) collected some French flowering *L. virosa* in Essex, England, which was crushed, extracted with dilute hydrochloric acid, then the aqueous solution shaken out with ether, made alkaline with ammonia and extracted with ether again. The residue was dissolved in a trace of hydrochloric acid and failed to cause mydriasis in four humans on whom it was tested. Four hundred grams of fresh plant were taken and an extract obtained in about 1 cc.

This work was repeated by Farr and Wright, using 1 kilo of fresh herb obtained from Braithwaite; the herb was dried and extracted with alcohol and acid, the filtrate concentrated, made alkaline with ammonia and extracted with chloroform. About 0.6 mg. of material was obtained, which gave alkaloidal reactions with Mayer's and Thresh's reagents. Applied to the pupils of two humans, powerful mydriatic effects were obtained. In a discussion of this paper (15) Ransom stated that he had obtained 0.015 per cent of a chloroform extract from lactucarium, which was mydriatic. It appeared strange, however, that ether extraction by Braith-

waite and Stevenson had not obtained any mydriatic alkaloid. Wright subsequently (38) repeated this procedure on *lactuca muralis*, finding negative results in a general examination and only minute quantities of alkaloid in a more intensive study. These ranged from 0.06 per thousand in the leaves to 0.15 per thousand in the root.

In order to obtain more definite information regarding the presence of active alkaloids in lactucarium, a series of investigations were initiated. This report deals with the studies made to determine the mydriatic activities of lactucaria.

EXPERIMENTAL PROCEDURE.

A number of adult cats were confined in individual cages. They were handled daily in order to develop their friendship and to facilitate ease in use. The thresholds of each cat were determined for known solutions of atropine, hyoscyamine, hyoscine and in most instances for physostigmine. The technic previously developed by Munch (26), (27) was used: exactly 0.05 cc. of solution was placed on the cornea of a cat, the inner canthus compressed and the lids opened and closed over a period of thirty to sixty seconds, until absorption was apparently complete. Just before this application, and at half-hour intervals over a period of three hours, the pupils were inspected to note any differences in diameter which might develop between treated and untreated eyes. Each cat was placed one foot from a bright light and the degree of pupillary contraction determined. By means of a transparent celluloid scale the pupillary diameters were easily measured. A satisfactory degree of effect was attained when the treated pupil differed by 0.5 mm. from the untreated pupil.

In preparing lactucarium two procedures were used. In one, the method outlined in the Pharmacopœia was followed (grinding with sand, etc.). Similar tests were conducted on the same samples by acidifying and boiling lactucarium with alcohol, under the belief that the mydriatic alkaloids, if any, would dissolve in this solvent. Four samples of lactucarium were studied.

In addition, three different samples of lettuce were purchased on the open market, dried in an incubator at about 37° C., ground and percolated to make a fluidextract. Approximately 70 per cent alcohol was used as the menstruum.

In a few experiments the alcoholic solutions were used as such, although in general the alcohol was removed and the volume made up with distilled water to the original quantity.

Tests were conducted on four samples of lactucarium and three samples of lettuce: no extracts ever showed any mydriatic potency.

CONCLUSION.

1. No evidence of mydriatic action was found in testing four samples of lactucarium and three samples of lettuce.

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THE GRAVIMETRIC AND VOLUMETRIC DETERMINATION OF ANTIPYRINE AS HYDROFERROCYANIDE IN THE PRESENCE OF AMIDOPYRINE.*,[1]

BY I. M. KOLTHOFF.

The simple iodometric determination[2] of antipyrine cannot be applied in the presence of amidopyrine, since the latter substance is oxidized by iodine. In the present work it has been found that antipyrine yields a crystalline precipitate with potassium ferrocyanide in acid medium whereas amidopyrine does not react under similar conditions. Use of this precipitation reaction has been made in the quantitative determination of antipyrine; the method can be applied in the presence of amidopyrine.

Composition of the Hydroferrocyanide of Antipyrine.—The crystalline precipitate formed in an acid medium of hydrochloric acid and containing an excess of potassium ferrocyanide was collected, washed with water, alcohol and ether, and air dried. On heating in vacuum at 70° no loss in weight was noticed. It should be mentioned that the air-dry precipitate obtained after washing with alcohol (no ether) contains 0.3 to 0.4% of water. The hydroferrocyanide content of the precipitate was determined by titrating 0.1000-Gm. samples with sodium hydroxide using phenolphthalein as an indicator. The hydroferrocyanic acid behaves as a quadrivalent acid; the antipyrine, being a very weak base, does not affect the titration. It was found that 0.1 Gm. required 12.78, 12.75, 12.72 cc., 0.0529*N* sodium hydroxide, respectively, corresponding to a molecular weight of the precipitate of 592.1. From the above it may be concluded that the crystals consist of a compound of 2 molecules antipyrine and 1 molecule hydroferrocyanic acid:

$$(C_{11}H_{12}N_2O)_2H_4Fe(CN)_6.\ M = 592.1$$

The composition is different from that of the hydroferrocyanides of most alkaloids which ordinarily yield precipitates containing water of crystallization and one molecule of alkaloid per one molecule of hydroferrocyanic acid.

Sensitivity of the Precipitation of Antipyrine.—The sensitivity depends upon the concentration of ferrocyanide and the acidity of the mixture. In the following experiments the solution was acidified with hydrochloric acid. It appeared advantageous to have a large excess of potassium ferrocyanide. After some systematic experiments, the following procedure was adopted: 2 cc. 0.5 molar potassium ferrocyanide were added to 5 cc. antipyrine solution, the latter containing the concentration of hydrochloric acid as given in Table I.

The optimum acidity is 0.5 to 0.75*N* of hydrochloric acid. 2 mg. antipyrine can be detected if 2 cc. 0.5-molar potassium ferrocyanide and 0.5 cc. 6*N* hydro-

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* Scientific Section, A. PH. A., Madison meeting, 1933.

[1] Contribution from the School of Chemistry of the University of Minnesota.

[2] Comp. I. M. Kolthoff, "Volumetric Analysis," Vol. 2, page 454, translated by N. H. Furman, John Wiley & Sons, New York, 1929.

chloric acid are added to 5 cc. of the solution. If no precipitate appears after ten minutes of standing, less than 2 mg. of antipyrine are present.

TABLE I.—SENSITIVITY OF PRECIPITATION OF ANTIPYRINE.

Antipyrine Present in 5-cc. Solution Mg.	Concentration HCl in Mixture N	Result.
2.5	0.1	No precipitate after 3 hours.
2.5	0.5	Precipitate after 5–6 min.
2.5	1.0	Precipitate after 15 min.
2.5	3.0	No precipitate after 3 hours.
1.25	0.5	No precipitate after 2 hours.

Solubility of Antipyrine Hydroferrocyanide.—In connection with the quantitative determinations it was of interest to know the losses in weight of the precipitate on washing with various solutions. Fifty cc. of the solvent were drawn through glass-filtering crucibles containing known weights of the precipitate at the rate of 10 cc. per minute. The crucibles were then dried at 110° and reweighed. The losses in weight are given in Table II.

The solubility in the various solvents with the exception of ether is appreciable and cannot be neglected in quantitative determinations.

TABLE II.—LOSS IN WEIGHT ON WASHING OF ANTIPYRINE HYDROFERROCYANIDE.

Solvent.	Precipitate Dissolved in 50-cc. Solvent Mg.
Water	71.8
95% Alcohol	38.3
Ether	0.0
0.1*N* HCl	22.7
1*N* HCl	31.0
3*N* HCl	107.5
0.1*N* $K_4Fe(CN)_6$	133[a]
0.5*N* $K_4Fe(CN)_6$	343[a]

[a] Determined by titrating the filtrate with standard sodium hydroxide.

Gravimetric Determination of Antipyrine.—Preliminary experiments carried out under various conditions yielded low results owing to the solubility of the antipyrine hydroferrocyanide in the precipitation mixture and the wash liquids. Therefore it was decided to use a saturated solution of antipyrine hydroferrocyanide in water as a wash liquid. The latter has to be freshly prepared every day by shaking some of the precipitate with water. After a day of standing, it turns bluish owing to decomposition of the hydroferrocyanic acid.

Procedure.—A weighed amount of the sample containing about 0.2 to 0.3 Gm. antipyrine is dissolved in about 30 cc. 0.8*N* hydrochloric acid. 20 cc. 0.5-molar potassium ferrocyanide are added slowly with stirring of the mixture. The precipitate is allowed to stand for thirty minutes and is then filtered on a Gooch crucible with paper disc or a glass-sintered crucible. The residual precipitate in the flask is transferred to the crucible by use of the filtrate, and when the transfer is complete it is finally washed four times with 2–3-cc. portions of the freshly prepared saturated solution of the precipitate in water. The crucible is then dried for thirty minutes at 105–110° and weighed after cooling. A correction for the loss by solubility is made by adding 5 mg. to the weight of the precipitate found. The latter contains 63.53% antipyrine.

Volumetric Determination of the Precipitate.—The gravimetric procedure is followed. It is recommended to use in this case the Gooch crucible with paper disc instead of the sintered glass crucible. After washing, the precipitate and filter paper are dislodged with the point of a spatula and transferred to an Erlenmeyer flask, any precipitate remaining in the crucible being carried over in the flask with distilled water in equilibrium with the atmosphere. A few drops of phenolphthalein are added to the mixture and standard (0.05 to 0.1*N*) sodium hydroxide run in with constant stirring. The precipitates dissolve rather slowly but finally disappear completely. The end-point is reached when the pink color is stable for 2 to 3 minutes. A titration is made with the same volume of water as used in the suspension of the precipitate and this blank subtracted from the volume of standard reagent required in the titration. This blank should not exceed 0.05 cc. 0.1*N* sodium hydroxide for 50 cc. A correction for the loss by solubility is made by adding 0.34 cc. 0.1*N* NaOH to the required volume of reagent.

TABLE III.

Antipyrine Taken Gm.	Antipyrine Found (Corrected for Solubility). Grav.	Vol.	Error %. Grav.	Vol.
0.2896	0.2908	0.2908	+0.4	+0.4
0.2896	0.2916	0.2910	+0.7	+0.5
0.2896[b]	0.2912	0.2907	+0.55	+0.44
0.2896[a]	0.2905	0.2898	+0.3	0.0
0.2896[a]	0.2926	0.2922	+1.0	+0.9
0.1159	0.1164	0.1154	+0.4	−0.4
0.1159	0.1168	0.1174	+0.8	+1.3
0.1159[b]	0.1168	0.1174	+0.8	+1.3
0.1159[a]	0.1129	0.1121	−2.6	−3.3
0.1159[a,b]	0.1136	0.1130	−2.0	−2.5
0.1159[a,b]	0.1136	0.1130	−2.0	−2.5

[a] 0.6 Gm. amidopyrine was added.
[b] 1 hour of standing before filtration.

One cc. 0.1*N* NaOH corresponds to 9.4 mg. antipyrine. Some results are given in Table III. It may be inferred that the method gives results accurate within 1% for quantities of antipyrine between 0.1 to 0.3 Gm. 0.6 Gm. of pyramidone with 0.3 Gm. antipyrine does not affect the results, the same amount of pyramidone with 0.1 Gm. antipyrine lowers the results about 2 to 3%. It is not recommended that the method be used for the determination of quantities of antipyrine much smaller than 100 mg.

Finally the author wishes to express his sincere appreciation to J. J. Lingane for his faithful help in carrying out the experiments.

SUMMARY.

1. In acid medium antipyrine gives a crystalline precipitate with ferrocyanide having the composition $(C_{11}H_{12}N_2O)_2H_4Fe(CN)_6$.

2. A gravimetric and volumetric procedure has been described for the quanti-

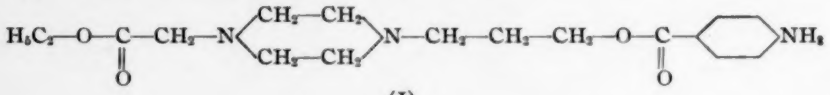
tative estimation of antipyrine in the form of its hydroferrocyanide. The method can be applied in the presence of amidopyrine.

MINNEAPOLIS, MINN.,
May 1933.

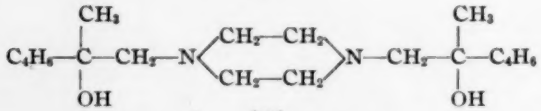
PIPERAZINE DERIVATIVES AS LOCAL ANESTHETICS.*

BY W. BRAKER AND W. G. CHRISTIANSEN.

Several piperazine derivatives have been reported in the literature (1) to possess anesthetic activity. This investigation concerns the *p*-amino benzoate of 4-(carbethoxymethyl)-1-piperazine propanol (I) and the phenyl urethane of 1,4-bis-(β-hydroxy-β-methyl hexyl) piperazine (II).



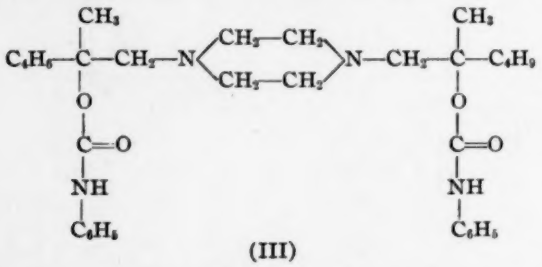
(I)



(II)

It is stated (2) that 1,4-*bis*(β-hydroxy-β-methyl hexyl)piperazine has a definite anesthetic action on the rabbit's tongue. An increase in the size of the alkyl groups was accompanied by increased activity so that the heptyl derivatives were considerably more effective than cocaine.

The method of preparation of 1,4-*bis*(β-hydroxy-β-methyl hexyl)piperazine is contained below. An effort to prepare a mono-phenyl urethane of this substance resulted in the isolation of only the diphenyl urethane derivative (III). No further attempt was made to prepare the mono-phenyl urethane.



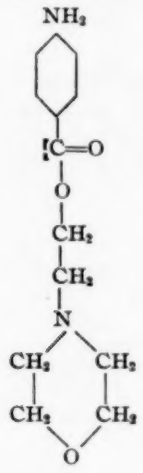
(III)

The dihydrochloride of (III) was found to be soluble to the extent of only 1.1%. The p_H of such a solution was found to be 2.2 and the solution would not permit of buffering. Consequently, it appeared impractical to further study such types of compounds.

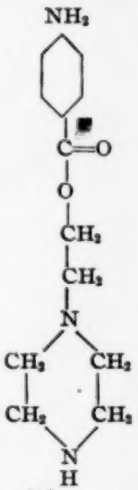
The *p*-amino benzoate of 4-(β-hydroxyethyl)morpholine (IV) has been reported to be an active anesthetic (3). A study of the substitution of the oxygen atom in

* Scientific Section, A. PH. A., Madison meeting, 1933.

the morpholine ring by a nitrogen atom was therefore commenced. The relationship between these compounds is demonstrated by their structural formulas:



(IV)



(V)

It is difficult to prepare the compound (V) with substitution on only one of the extremely basic nitrogens. As a result it was necessary to first obtain a monosubstituted piperazine. This was accomplished by preparing ethyl 1-piperazineacetate and subsequently therefrom the compound I. The synthesis is described below.

A 2% aqueous solution of the dihydrochloride of I could be effectively buffered with sodium phosphate to a p_H of 6.8. This solution was tested for anesthetic activity but it was comparatively inactive judging from the results of intradermal injections in guinea pigs.

EXPERIMENTAL.

Ethyl 1-Piperazineacetate.—The procedure followed consisted of reacting piperazine with ethyl chloracetate and subsequently fractionating the substance from 1,4-*bis*(carbethoxymethyl)piperazine.

Boiling point of ethyl 1-piperazineacetate—153–159° C. at 9–11 mm.
Yield—7.0 Gm. of a colorless oil.
Assay: N, Found 15.75%
Calculated for $C_8H_{16}O_2N_2$ 16.28%.

Ethyl-4-(γ-Hydroxy Propyl)-1-Piperazineacetate.—Seven grams of ethyl 1-piperazineacetate, 6.0 Gm. of 1-chlor 3-hydroxy propane and 7.0 Gm. of potassium carbonate were heated together in an oil-bath maintained at 155–160° C. for 7 hours. The reaction was then considered to be complete as judged from the cessation of the evolution of carbon dioxide bubbles.

The excess trimethylene chlorohydrin was removed by distillation *in vacuo*. The semi-solid residue was extracted with a mixture of alcohol and benzene. The extracts were dried over sodium sulphate. Efforts to crystallize the substance were unsuccessful. The solvents were then removed completely by vacuum distillation and a yellow, viscous oil was obtained as a residue, which was assayed.

Assay:	N, Found	11.57%
	Calculated for $C_{11}H_{22}N_2O_3$	12.17%.

Ethyl-4-(γ-Chloro Propyl)-1-Piperazineacetate.—Twelve grams of ethyl 4-(γ-hydroxy propyl)-1-piperazineacetate was refluxed with 10.0 Gm. of thionyl chloride and 6.0 Gm. of pyridine for 3 hours. An oil separated out from the benzene solution during refluxing. The benzene solution was poured off from the oil and distilled; the residue from this distillation was negligible.

The oil was treated with dilute ammonium hydroxide to liberate the base. The latter was found to be soluble in aqueous solution which effected its separation from pyridine. The latter was extracted with benzene. The aqueous solution was evaporated to dryness and the residue treated with several portions of alcohol. The alcoholic extract was evaporated, yielding 2.8 Gm. of a yellow viscous oil.

Assay:	Cl, Found	14.05%
	Calculated for $C_{11}H_{21}O_2N_2Cl$	14.29%.

p-Amino Benzoate of 4-(Carbethoxymethyl)-1-Piperazinepropanol.—1.37 Gm. of *p*-amino benzoic acid was dissolved in 25 cc. of absolute alcohol. To this solution was added one of 0.23 Gm. of sodium dissolved in 20 cc. of alcohol. The resulting suspension of sodium *p*-amino benzoate was refluxed for 12 hours with an alcoholic solution of 2.5 Gm. of ethyl 4-(γ-chlor propyl)-1-piperazineacetate. The alcoholic solution was filtered from sodium chloride. The filtrate was distilled *in vacuo* which resulted in the isolation of a viscous yellow oil as the residue.

Assay:	N, Found	11.62%
	Calculated for $C_{18}H_{27}N_3O_4$	12.03%.

1,4-bis(β-Hydroxy β-Methylhexyl)Piperazine.—This substance was prepared by the procedure of Fourneau and Samdahl (4).

Diphenyl Urethane of 1,4-bis(β-Hydroxy β-Methyl Hexyl)Piperazine.—Three grams (1 mole) of the carbinol and 1.1 Gm. (1 mole) of phenyl isocyanate were dissolved in 50 cc. of dry benzene. The benzene solution was refluxed for four hours. The hydrochloride of the substance was obtained by the addition of ether containing hydrochloric acid gas. The precipitate was filtered off, washed with ether and dried *in vacuo*.

It was recrystallized from alcohol.

Yield—3.4 Gm. of small, plate-like, white crystals.
Melting point—180–181° C.

Assay:	Nitrogen.	Chlorine.
Found	9.08%	10.90%
Calculated for $C_{32}H_{50}N_4O_4Cl_2$	9.12%	11.36%

The biological tests on compounds reported herein were made in the Biological Research Laboratories of E. R. Squibb and Sons and we gratefully acknowledge their assistance.

SUMMARY.

(1) A phenyl urethane of 1,4-*bis*(β-hydroxy β-methyl hexyl)piperazine has been prepared. This substance could not be tested biologically for anesthesia because of its acidity.

(2) The *p*-amino benzoate of 4-(carbethoxymethyl)-1-piperazineacetate has been prepared. A 2% solution of the dihydrochloride is comparatively inactive.

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A MODIFIED ASSAY PROCESS FOR ALKALI BENZOATES AND SALICYLATES.*,†

BY JACOB E. SCHMIDT AND JOHN C. KRANTZ, JR.

INTRODUCTION.

The assay processes of sodium benzoate and salicylate have been the subject of much investigation during the past three decades. In 1902, Alcock (1) called attention to the simple assay process of the British Pharmacopœia. The method consisted of simple ignition and titration of the resulting carbonate. Certain difficulties in the method were enumerated. This worker suggested the conversion to chloride and argentimetric determination of the chloride. The field was reviewed and studied comprehensively by Clark (2) in 1926. This investigator concluded that the most accurate and uniform results are obtained by either weighing the metal as chloride or extracting the liberated organic acid and weighing.

In the preparation of the official monographs for the forthcoming edition of the Pharmacopœia the method of assay recently described by Henville (3) was investigated in this laboratory.

A modification of the Henville procedure was adopted and the results obtained are set forth in this communication.

EXPERIMENTAL.

In the method suggested by Henville, a weighed quantity (about 2 Gm.) of the salt is transferred with water to a cylindrical separator. A few drops of methyl orange is added and 30 cc. of neutral ether. Half-normal hydrochloric acid is run in with careful shaking until the indicator shows a distinct red color. The aqueous layer is then transferred to another separator and the water washings of the ether are added. Neutral ether is added and upon shaking the color again becomes yellow. The titration is continued until the second end-point is reached.

In an effort to simplify the method the authors have adopted the following procedure which serves as a rapid and accurate method for Pharmacopœial purposes.

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* Scientific Section, A. PH. A., Madison meeting, 1933.

† The expense of this investigation was defrayed in part by a grant from the Research Fund of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The following procedure is applicable for sodium benzoate or salicylate.

"Transfer about 1.5 Gm. of the salt, previously dried to a constant weight at 100° C. and accurately weighed, to a tall beaker of about 300 cc. capacity and add 75 cc. of ether and 5 drops of methyl orange T.S. Titrate the mixture with half-normal hydrochloric acid, mixing intimately the aqueous and ethereal layers by vigorous stirring, until a permanent orange color is produced in the aqueous layer."

The method was tried with samples of U. S. P. sodium salicylate and benzoate which had been previously recrystallized. The results are compared in Tables I and II with those obtained by assaying the same salts by the official process.

TABLE I.—PERCENTAGE PURITY.

Sodium Benzoate.

Sample.	New Method.	U. S. P. X Method.
1	99.10	98.76
2	98.70	98.63
3	98.70	99.21
4	99.50	98.47
5	99.30	101.00
6	99.60	99.63
7	99.10	99.55
8	99.20	...
9	99.42	...
10	99.22	...
11	99.33	...
12	99.30	...
13	99.30	...
14	99.27	...
15	99.53	...
16	99.30	...
17	99.32	...
18	99.34	...
19	99.52	...
20	99.36	...
21	99.43	...
22	99.41	...
23	99.37	...
	Mean 99.29	Mean 99.32
	$r = 0.151$	$r = 0.582$

The statistical analysis of the raw data obtained illustrates the superiority of the new method as far as accuracy is concerned. Thus "r" the probable error of a single determination for sodium benzoate is 0.15 per cent using the new method. By the U. S. P. method $r = 0.58$ per cent. With sodium salicylate $r = 0.07$ per cent using the new method and 0.61 per cent when the U. S. P. method was employed. In these calculations

$$r = \pm 0.6745 \sqrt{\frac{\Sigma(v^2)}{n-1}}$$

The possible sources of error in the U. S. P. X method are many. During the process of ignition the salt tends to be ejected from the crucible, and, even when a small flame is used and the utmost care is taken to prevent sudden overheating, some small portion of the sample is probably lost. The Pharmacopœia directs that

TABLE II.—PERCENTAGE PURITY.

Sodium Salicylate.

Sample.	New Method.	U. S. P. X Method.
1	99.60	99.37
2	99.30	99.47
3	99.30	100.00
4	99.32	98.80
5	99.37	99.40
6	99.39	98.40
7	99.53	98.60
8	99.70	99.33
9	99.41	101.00
10	99.39	101.00
11	99.43	...
12	99.35	...
13	99.50	...
14	99.36	...
15	99.40	...
16	99.31	...
17	99.29	...
18	99.32	...
19	99.42	...
Mean	99.40	Mean 99.53
	$r = 0.073$	$r = 0.607$

the final temperature should not exceed a dull red heat, but this limitation may be variously interpreted by different operators. After ignition, the carbonized mass is to be disintegrated with a glass rod. The carbonized mass is usually very brittle, and it is very likely that during the process of disintegration small bits are thrown out of the crucible. The pulverized mass is boiled with 50 cc. of water and 50 cc. of acid; the mixture is filtered, and the residue washed free from acid. The quantity of solution thus obtained varies with different operators, but in all cases a large volume results.

CONCLUSION.

1. A rapid and more accurate method for the assay of sodium salicylate and benzoate has been devised, based upon the procedure of Henville.

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MANUFACTURE OF MEDICINAL PRODUCTS IN JAPAN.

A survey is being made of medicinal products manufactured in Japan by the Japanese Health Bureau. Among the items represented in considerable quantity are the following. The amounts are in kilograms.

Condurango Extract, 52,292; Ethyl Acetate, 366,120; Solution of Potassium Acetate, 55,318; Sodium Bicarbonate, 5,810,181; Mercuric Chloride, not including tablets, 65,154; Mercuric Dextrin, 129,595; Senega Syrup, 180,558; Paste of Tar, 20,159; Calcium Lactate, 34,830.

THE "CO-FE-CU" FLUIDS AND CERTAIN PHARMACOPŒIAL TESTS.*†

BY H. V. ARNY AND A. TAUB.

INTRODUCTION.

This is the thirteenth of a series of papers on the "Co-Fe-Cu" standardized colored fluids which have been published since 1912 by the senior author and his co-workers. These fluids have been described at length in the other papers so at this place, we need only present recipes for their manufacture couched in pharmacopœial phraseology.

THE CO-FE-CU FLUIDS.

Colorimetric Cobalt T.S.—Dissolve about 60 grams of cobalt chloride, $CoCl_2.6H_2O$, in enough of a fluid made by mixing 25 cc. of hydrochloric acid U. S. P. with 975 cc. of distilled water to make 1000 cc. of test solution. This test solution should be standardized to the $^1/_4$ molar strength (59.496 grams $CoCl_2.6H_2O$ to the liter) by the following assay: Place 5 cc. in a 250-cc. flask; add 15 cc. of 20 per cent sodium hydroxide and 5 cc. of solution of hydrogen dioxide (3 per cent), boil for ten minutes, cool, add 2 grams potassium iodide, followed by 20 cc. sulphuric acid (1:4). When the precipitate has dissolved, titrate with tenth-normal sodium thiosulphate. Each cubic centimeter of $N/10$ thiosulphate corresponds to 0.023799 gram $CoCl_2.6H_2O$.

Colorimetric Ferric Test Solution.—Dissolve about 50 grams of ferric chloride U. S. P. in enough of a fluid made by mixing 25 cc. of hydrochloric acid U. S. P., with 975 cc. of distilled water to make 1000 cc. of test solution. This test solution must be standardized to $^1/_6$ molar strength (45.054 grams $FeCl_2.6H_2O$ to the liter) by the hydrochloric acid, potassium iodide, sodium thiosulphate volumetric assay, found under *Ferri Chloridum* (p. ...); 10 cc. of the test solution is employed. Each cubic centimeter of $N/10$ thiosulphate corresponds to 0.027032 gram $FeCl_3.6H_2O$.

Colorimetric Copper Test Solution.—Dissolve about 65 grams of copper sulphate, $CuSO_4.5H_2O$, in enough of a fluid made by mixing 25 cc. of hydrochloric acid U. S. P. and 975 cc. of distilled water, to make 1000 cc. of test solution. This test solution should be standardized to the $^1/_4$ molar strength (62.43 grams $CuSO_4.5H_2O$ to the liter) by the acetic acid, potassium iodide, sodium thiosulphate volumetric assay found under *Cupri Sulphas* (p. ...); 10 cc. of the test solution is employed. Each cubic centimeter of $N/10$ thiosulphate corresponds to 0.024972 gram $CuSO_4.5H_2O$.

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* Scientific Section, A. PH. A., Madison meeting, 1933.

† The work described in this paper was performed at the request of Dr. George D. Beal, chairman of the U. S. P. sub-committee on organic chemicals. Our thanks are due to the Abbott Laboratories, Mallinckrodt Chemical Works, Merck & Company, New York Quinine and Chemical Works, Charles Pfizer & Co. and E. R. Squibb and Sons, for samples of the chemicals studied and to Messrs. Armao, Brown, Cooper, D'Orazio, Ginsberg, Givens, Glockner, Héiko, Hoehler, Isacoff, Kleinsinger, Sher, Silver, Vigilante, Wight and Ziliotto, fourth-year students of Columbia University College of Pharmacy, for the preliminary work upon which our final standards were based. [A. and T.]

POSSIBLE PHARMACOPŒIAL APPLICATIONS OF THESE FLUIDS.

In 1919, Arny, Kish and Newmark used these fluids to set the color standard for cottonseed oil; in 1923, Arny and Taub used them for setting color standards for (*a*) the "carbonizable impurities" test for Liquid Petrolatum, (*b*) the colorimetric suprarenal assay of U. S. P. IX; in 1933, Taub reported "Co-Fe-Cu" matches for the color of cod liver oil, almond oil and castor oil.

During the past year, Dr. George D. Beal requested us to set standards for all of the "readily carbonizable substances" tests of U. S. P. X. Thanks to the sixteen senior students mentioned in the foot-note, a preliminary study of these tests was made. Three to five different samples of the chemical were treated with concentrated sulphuric acid as directed in U. S. P. X and the resulting color (if any) was determined on the Lovibond tintometer that has been used in our color work of the past twenty years.

A color match was then prepared from the "Co-Fe-Cu" standard fluids. The results obtained by these students were then checked up by the authors of the present paper with three basic principles in mind: (*a*) Was the darker color produced by a fair sample? (*b*) Could the test of U. S. P. X be simplified? (*c*) Should prescribed quantities be placed upon a uniform basis?

Before discussing these principles, a typical "carbonizable substances" test of U. S. P. X should be quoted:

> The solution of 0.5 Gm. of Acetanilid in 5 cc. of sulphuric acid is colorless or only faintly yellow.

If the color matches given below are accepted by the Committee on Revision, the color phraseology given above will be revised. At this time, however, attention should be called to the uncertainty of color description. Thus, among the 51 descriptions of these sulphuric acid color tests of U. S. P. X we find "faintly yellow," "light yellow," "slightly yellow," "light yellow or slightly brown," "transient pinkish tint," "colorless or nearly so," "pale amber" and "no appreciable darkening." These descriptions are bewildering, especially when our tests showed that a sample producing a supposedly "light yellow" color revealed to our eyes a liquid that was greenish rather than yellow.

Taking up the three principles enunciated above, the following comments are in order:

As to fairness of sample, we frequently found that the deepest color produced in the preliminary work was that resulting from the action of the acid on a sample that had been in our college stock for some time. In all such cases, we [A. and T.] set our standard upon the poorest sample of the three or more sent in for this particular test by our manufacturing friends. We must, moreover, hasten to say that the phrase "poorest sample" just used, is scarcely fair, since all of the samples sent us this year were of excellent quality. In fact, we were confronted by the embarrassing situation that many of our recently received samples were colorless after treatment with sulphuric acid.

As to simplification of testing, there is little to be said and that topic is carried over to general directions given farther along in this paper.

As to uniformity in quantities, we believe that attempts in this direction should be made. The foregoing transcript of the wording of the test for Acetanilid calls

for 0.5 Gm. of the chemical and 5 cc. of the acid. The 5-cc. volume is the proper one for all tests, whenever it is practical. We believe that 5 cc. of acid should be used in the chloroform test even as now obtains in the test for carbon tetrachloride. The 2-cc. quantities of sulphuric acid prescribed in some thirty of the tests of U. S. P. X are almost impracticable because of the difficulty in determining a match for so small an amount of liquid. Because the fluid to be matched is essentially concentrated sulphuric acid, colorimeter cells can scarcely be used and 2 cc. of fluid in a test-tube or bottle is almost unmatchable. Of course, we realize that most of the chemicals tested with 2 cc. of acid are expensive. One (Dichloramine) explodes when mixed in the proportion 0.5 Gm. in 5 cc. of acid, but reacts without violence in the proportion 0.1 Gm. to 1 cc. of acid. However, a revision as to volume of acid is desirable, and in our findings given below, we have generally put the test upon a 5-cc. basis.

In testing the approximately fifty chemicals for which U. S. P. X prescribes the sulphuric acid color test, we discovered twenty blends which provided matches for all of the chemicals tested. These are tabulated below where columns headed "Co," "Fe" and "Cu," respectively, mean the volume (in cubic centimeters or fractions thereof) of the standard cobalt or iron or copper solutions required in 5 cc. of the finished standard matching fluid. The only exception is blend "B" which is adjusted to a 10-cc. basis. Of course H_2O means in this case, the amount of water used as the diluent.

TABLE OF MATCHING FLUIDS.

	Co.	Fe.	Cu.	H_2O.
"Grayish"				
A	0.1	0.4	0.1	4.4
B	0.3	0.9	0.3	8.5
C	0.1	0.6	0.1	4.2
D	0.3	0.6	0.4	3.7
"Fawn Colored"				
E	0.4	1.2	0.3	3.1
F	0.3	1.2	0.0	3.5
G	0.5	1.2	0.2	3.1
"Yellow"				
H	0.2	1.5	0.0	3.3
I	0.4	2.2	0.1	2.3
J	0.4	3.5	0.1	1.0
K	0.5	4.5	0.0	0.0
L	0.8	3.8	0.1	0.3
"Green"				
M	0.1	2.0	0.1	2.8
N	0.0	4.9	0.1	0.0
O	0.1	4.8	0.1	0.0
"Pink"				
P	0.2	0.4	0.1	4.3
Q	0.2	0.3	0.1	4.4
R	0.3	0.4	0.2	4.1
S	0.2	0.1	0.0	4.7
T	0.5	0.5	0.4	3.6

These are the twenty blends just as we found them as matches for the colors produced by action of concentrated sulphuric acid upon the approximately fifty

chemicals studied by us. There is little doubt that a check-up of our work by the U. S. P. sub-committee on organic chemicals may reduce the matches to 2 "grayish," 1 "fawn," 2 or 3 "yellows," 2 "greens" and 2 "pinks." If this lessening of the number of matches is agreed upon, the wording of the test in the individual monograph may be materially simplified.

SUGGESTED OUTLINE OF THE PROPOSED SULPHURIC ACID TEST.

First, there will be introduced among the test solutions described in the rear pages of U. S. P. XI, specifications for colorimetric test solutions of cobalt, iron and copper, with wording substantially as given in the first part of this paper.

Secondly, there should appear among the "General Tests, Processes and Apparatus" of U. S. P. XI a concise description of "Colorimetric Test for Readily Carbonizable Substances in Organic Chemicals."

This description should include:

I. GENERAL DIRECTIONS AND WARNINGS.

(*a*) *Finely Powder the Chemical Prior to Weighing.*—Otherwise solution is delayed beyond reasonable limits of time.

(*b*) *Time Limit.*—Matching should be performed not less than 15 or more than 30 minutes after complete solution has been obtained.

(*c*) *Gas Evolution.*—Some chemicals upon addition of the acid produce vigorous effervescence. Do not stopper container until effervescence is completed.

(*d*) *Matching Containers.*—As already mentioned, the strongly acid liquid should not be poured into the average colorimeter cell. In our experience with the 5-cc. batches of the acid liquid, we find matching in test-tubes is far from satisfactory. Above all, the operator should be warned not to attempt matching by looking down on the surface of the liquid in a Nessler tube placed on a white surface. Our own experience indicates that the best method of matching is by using a 15-cc. ($^1/_2$ ounce) glass stoppered "French square" bottle of clear flint glass. In the run of a dozen such bottles, a large percentage of them will be found to be uniform as to interior area, at least as far as the accuracy of this acid test demands.

(*e*) *The Act of Matching.*—If "French square" bottles are employed, the best match is secured by viewing the fluids transversely against a white background (porcelain or white glass plate).

II. TABLE OF MATCHING FLUIDS.

Similar to that given above. With this information in condensed form, the wording of the test in the monograph may be expressed something like this:

> The solution of 0.5 Gm. of Acetanilid in 5 cc. of sulphuric acid has no more color than matching fluid A, described under the "test for carbonizable substances" (p. . . .).

As to these "carbonizable substances" tests, all remaining to report are the colors produced with concentrated sulphuric acid.

COLOR MATCHES.

Blend A.—Acetanilidum, Aethylis Aminobenzoas, Atropina, Atropinæ Sulphas, Barbitalum, Barbitalum Solubile, Caffeinæ Sodio-Benzoas, Carbonei Tetrachloridum, Carbromalum,

Chloramina, Chloroformum, Cocaina, Glusidum, Glusidum Solubile, Phenobarbitalum, Pilocarpinæ Nitras, Strychninæ Sulphas, Theobrominæ Sodio-Salicylas and Theophyllina.

Blend B.—Glycerinum.
Blend C.—Acidum Salicylicum.
Blend D.—Caffeina.
Blend E.—Pelletierinæ Tannas.
Blend F.—Cocainæ Hydrochloridum.
Blend G.—Procainæ Hydrochloridum.
Blend H.—Emetinæ Hydrochloridum.
Blend I.—Physostigminæ Salicylas.
Blend J.—Caffeina Citrata.
Blend K.—Acidum Citricum.
Blend L.—Strychninæ Nitras.
Blend M.—Quinidinæ Sulphas, Quinina, Quininæ Bisulphas, Quininæ Dihydrochloridum, Quininæ et Ureæ Hydrochloridum, Quininæ Sulphas.
Blend N.—Cinchophenum.
Blend O.—Santoninum.
Blend P.—Chloralis Hydras, Dichloramina.
Blend Q.—Acidum Acetylsalicylicum, Acidum Benzoicum.
Blend R.—Guaiacolis Carbonas.
Blend S.—Codeina, Codeinæ Sulphas.
Blend T.—Acetphenetidinum.

The foregoing tabulation suggests a number of special remarks explaining certain deviations from the fixed rules outlined above:

Blend A represents a grayish tint just beyond the clear color of distilled water. Among the chemicals listed in this group are found some that are directed in the U. S. P. X to be "colorless or nearly so." Among these are the two barbitals, chloral hydrate, eucaine hydrochloride, dichloramine and procaine hydrochloride. In our experiments, at least one of the samples of each chemical just mentioned showed a faint suggestion of color; hence we included all of these chemicals in the group matched by "Blend A."

Lactic Acid.—U. S. P. X gives a sulphuric acid test for this chemical. The specifications call for "no dark zone," hence it fell outside the class of exact color matching.

Carbon Tetrachloride and Chloroform Tests call for the shaking of 20 or 40 cc. of the chemical with 4 or 5 cc. of concentrated sulphuric acid in a glass-stoppered cylinder and viewing color of acid after shaking. We recommend that both tests be run with 40 cc. of the chemical and 5 cc. of the acid. The surplus of the chemical is to be decanted and the acid residue transferred to the 15-cc. glass-stoppered "French square" bottle for matching against the standard blend.

Codeine.—The pink color produced is not so transient as the Pharmacopœia suggests. That is, the acid matched the same pink fluid (Blend S) both 15 and 60 minutes after complete solution.

Dichloramine.—This test must be handled with care. When 0.5 Gm. is mixed with 5 cc. of sulphuric acid, an explosion occurs. For this reason, as mentioned above, we advise the present U. S. P. proportion 0.1 Gm. to 1 cc. of the acid.

Gluside.—We recommend that the heating of this chemical with the acid be continued at 48° to 50° C. but we suggest that the phrase "on a water-bath" be deleted.

HYOSCYAMINE HYDROBROMIDE AND SCOPOLAMINE HYDROBROMIDE.

While U. S. P. X gives the sulphuric acid test for these chemicals, we find it is not practical since the yellow color produced in both cases is largely due to bromine.

Pelletierine Tannate.—The process of U. S. P. X is to view the color change as a "spotting test" upon a white porcelain surface. We recommend that the residue be treated with 2 cc. of sulphuric acid and that this be matched in the 15-cc. "French square" bottle.

Liquid Petrolatum.—This color test was reported in a previous paper (2). At this time we need only state that the match then reported (Co, 1.5 cc.; Fe, 3.0 cc.; Cu, 0.5 cc.; H_2O 0.0 cc.) is more amber than the five yellows (H − L) of the tabulation given above).

MATCHING THE COLOR OF FIXED OILS.

In previous papers (3) we have published the composition of blends made from the Co-Fe-Cu fluids for matching the color of cottonseed oil, cod liver oil, almond oil and castor oil. For details, the reader is referred to the original articles listed in the bibliography with which this paper ends. Chairman Beal has requested us to attempt to devise a blend matching the color of halibut liver oil. Securing 8 commercial samples of this now popular oil, we were surprised to note that the color ranged from a light yellow to an amber that was almost brown. As all of the oil samples examined were marketed for medicinal purposes and, as the darker samples in our opinion are not attractive, we picked as our "average sample" one that was darker than 3 samples and lighter than 5 samples. It appears to us that the first step, if the color of halibut oil is to be standardized will be the setting, by mutual agreement, of a proper shade of yellow for medicinal halibut oil. Tentatively, we have ventured to select our "average sample" and this sample is matched by a blend of Co, 4.5 cc.; Fe, 10 cc.; Cu, 0.5 cc. and H_2O, none. This halibut oil problem was submitted to us only recently. Our conclusions are therefore tentative and we recommend that the marketers of this new product give attention to further refining and to establishing a more uniform color.

CONCLUSIONS.

1. Report of the study of the color changes produced when certain U. S. P. chemicals are treated with concentrated sulphuric acid, and a tabulation of 20 blends of the "Co-Fe-Cu" standardized colored fluids by which the colors produced by the "readily carbonizable substances" test of U. S. P. X upon fifty chemicals may be accurately matched.

2. Consideration of the standardizing of the color of official fixed oils already reported by the authors, and publication of a "Co-Fe-Cu" color blend which matches an "average sample" of halibut liver oil.

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(2) See item (*i*) in Reference (1).

(3) See items (*h* and *l*) in Reference (1).

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Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

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AN ASSAY METHOD FOR FLUIDEXTRACT OF IPECAC, U. S. P.*

BY MORTIMER BYE,[1] R. E. SCHOETZOW,[2] J. W. E. HARRISSON[3] AND L. DALE SEIF.[4]

INTRODUCTION.

Several different methods for the assay of Fluidextract of Ipecac have been proposed since the method of the U. S. P. X has been found to yield troublesome emulsions. The methods of Palkin and Watkins (1), the automatic extractor method of Palkin, Murray and Watkins (2) and a modified U. S. P. IX method were reported by Bliss and collaborators (3). Other methods considered were those of Leger (4) and the British Pharmacopœia method (5).

After careful study of these methods two were thought to be worthy of further work by collaborators and a third method which is essentially the U. S. P. Type C Assay Method with certain modifications were proposed. These three methods were compared with the present U. S. P. X method.

METHODS.

1. U. S. P. X Method.—Follow U. S. P. Type Process D, using plenty of ether in the first shake-outs, continue extractions until no cloudiness results when tested with mercuric potassium iodide, if possible. Do not allow final ether solution to go to dryness on the steam-bath, but add 2 or 3 cc. of alcohol or ether to the last few cc. remaining; again evaporate to 2 or 3 cc. and add 0.1*N* H_2SO_4 before evaporating off last traces of solvent.

2. Palkin and Watkins Method (Hand Extraction).—Measure 20-cc. sample into a 100-cc. volumetric flask, add about 5 cc. *N* sulphuric acid and evaporate on a steam-bath with the aid of a current of air to about 10 cc. Then, while rotating the flask, add about 30 cc. of water; cool and make up to the mark with water. Mix well and allow to stand over night. Decant the supernatant liquid through a dry filter, rejecting the first few cc. Then proceed by either Method 2 or 3. Pipette 20-cc. filtrate (representing 4-cc. original sample) into a separatory funnel. Add 2 cc. of ammonia T.S. and completely extract the alkaloids with peroxide-free ether until no cloudiness results with potassium mercuric iodide. Evaporate the combined ether solutions on steam-bath and finish as directed in U. S. P. X, using precautions under No. 1 about evaporating last traces of solvent.

3. Palkin, Murray and Watkins (Automatic Extractor).—Pipette 20 cc. of filtrate (in Method 2) into an automatic extractor for liquids lighter than water which has been fitted to a 200-cc. flask. Add 50 cc. of water, 2 cc. of ammonia T.S. and 50.0 cc. of peroxide-free ether, shake gently to prevent deposition of solid matter on bottom of extractor; then add ether until about 75 cc. have passed into the flask. Extract on a steam-bath for about two hours. Separate

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* Permission granted to publish by Chairman E. Fullerton Cook, Revision Committee, U. S. P.

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ether from the aqueous layer and add to main concentrate in the flask. Evaporate and titrate as directed in U. S. P. X, using precautions under No. 1 about evaporating last traces of solvent.

4. U. S. P. Type C Process.—Proceed as U. S. P. X Type Process C for fluidextracts, using 10-cc. sample and 100 cc. of ether. Shake and allow to stand over night and shake again, as directed in U. S. P. Decant a 50-cc. aliquot representing 5 cc. of sample. Carry out evaporation and titration as under No. 1.

The fluidextract used was carefully prepared from ipecac furnished by the U. S. P. Revision Committee and peroxide-free ether was used in the assays.

RESULTS.

TABLE I.

	R. E. Schoetzow, Gm. Alkaloids/100 cc.	L. D. Seif, Gm. Alkaloids/100 cc.
Method 1.	2.216	2.204
	2.209	...
Method 2.	2.343	2.003
Method 3.	2.251	...
Method 4.	2.155	2.213
	2.162	2.204

COLLABORATORS' COMMENTS.

R. E. Schoetzow: "We prefer Method 4 using paper as the absorbent. Method 1 requires too much time as it took more than a whole day to complete the analysis according to this method. A two-hour extraction with the mechanical extractor mentioned in Method 3 is not sufficient; about four and one-half hours were required for complete extraction of the alkaloid during this step."

L. D. Seif: "Method 1. No emulsion was formed when no water was added to the fluidextract, but a slight amount of water caused troublesome emulsions. Method 2. Emulsions also occurred in this hand-shake-out method. Method 3. The mechanical extractor did not extract all of the alkaloid in three hours. It was necessary to transfer to a separatory funnel and shake out by hand. Method 4. This method was found to be the least troublesome. Paper was used as the absorbent. One assay, using sawdust, gave slightly lower results."

A series of assays was then run, using ether which gave a positive test for peroxide when tested with cadmium potassium iodide. The results were low and did not check in duplicate assays, confirming the conclusions of other workers (6) that peroxide-free ether should be used in this assay. These results are given in Table II.

TABLE II.

	Ether Containing Peroxide Gm. Alkaloids/100 cc.	Peroxide-Free Ether Gm. Alkaloids/100 cc.
Method 1.	1.16	1.435
	1.29	1.425
Method 2.	1.06	1.396
Method 4.	1.13	1.42

These two series of assays indicated that Method 4 was satisfactory when peroxide-free ether was used, but there was some question as to what absorbents could be used since it had been shown by Morrison and Bliss (7) that sawdust retained a rather high percentage of certain alkaloids. Two series of assays were run using asbestos, paper, exhausted ipecac and sawdust as the absorbents. All the

absorbents were free from alkaloids when tested by the U. S. P. test for alkaloids in absorbents. The exhausted ipecac was used with the thought that it should give up all of the absorbed alkaloids rather easily and serve as a control on the other three absorbents. In one series the absorbents were impregnated with Fluidextract of Ipecac (of different manufacture than that previously reported) and in the other series with a solution containing a known amount of emetine hydrochloride. The results are given in Table III.

TABLE III.

	Fldext. Ipecac, Gm. Alkaloid/ 100 cc.	Solution Made to Contain 0.0755 Gm. Emetine (as Alkaloid) per 10 cc. Gm. Alkaloid/10 cc.
Sawdust absorbent	1.464	0.0711
	1.474	0.0680
Paper absorbent	1.55	0.0752
	1.53	0.0781
Asbestos	1.51	0.0762
		0.0772
Exhausted ipecac	1.522	0.0752
	1.541	0.0776
Straight ether shake-out		0.0752

These assays indicate that either asbestos or paper is a suitable absorbent and that while sawdust does not retain as great an amount of emetine as has been reported, when used with other alkaloids, still it gives low results and should not be used as an absorbent.

The results obtained in the three tables showed that the following method (Method 4) was the most practical method, that the results compare favorably with those of the present U. S. P. method and that uniform results could be secured in different laboratories when peroxide-free ether was used.

METHOD.

From a pipette measure 10.0 cc. of Fluidextract of Ipecac into an evaporating dish containing either absorbent paper or asbestos which gives no test for alkaloids when treated according to the U. S. P. method for absorbents. Dry at a temperature not exceeding 60° C. and transfer to a flask containing 100.0 cc. of peroxide-free ether. Stopper, shake well and allow to stand for five minutes. Then add 10 cc. of ammonia T.S. using a portion of the ammonia T.S. to rinse traces of absorbent from the evaporating dish. Stopper tightly and shake for one hour in a mechanical shaker or, occasionally, by hand for a period of about two hours. Allow the mixture to stand over night and again shake occasionally during a one-hour period. Allow the absorbent to settle and decant 50.0 cc. of the clear supernatant liquid into a separatory funnel. Completely extract the alkaloid from the ethereal solution with approximately normal sulphuric acid, using 15 cc. the first time and 10 cc. for each succeeding extraction, filtering each portion into a second separatory funnel. Extraction should be continued until no visible reaction is noted in the sulphuric acid solution when tested with mercuric potassium iodide, T.S.

To the combined acid solution add about an equal volume of peroxide-free ether, make alkaline with ammonia T.S. and extract with successive portions of ether until no visible reaction takes place when a few cc. are evaporated to dryness, dissolved in dilute sulphuric acid and tested with mercuric potassium iodide, T.S. Filter each portion into a 200-cc. flask and evaporate carefully on a steam-bath, nearly, but not quite to dryness. Add 5 cc. of ether and again evaporate nearly to dryness. Add 10.0 cc. of 0.1*N* sulphuric acid and heat on steam-bath to effect complete solution and to remove all of the ether. Cool, and titrate excess acid with 0.1*N* sodium hydroxide using methyl red indicator. Each cc. of 0.1*N* sulphuric acid corresponds to 0.0240 Gm. of ether-soluble alkaloids of ipecac.

Another sample of fluidextract was assayed by the collaborators by the above method using asbestos or paper as absorbents. The results on both the first and second samples are given in Table IV.

TABLE IV.

	Sample 1. Paper, Gm. Alkaloids/ 100 cc.	Sample 2. Paper, Gm. Alkaloids/100 cc.	Asbestos.
R. E. Schoetzow	2.162	1.532	1.50
		1.550	1.52
J. W. E. Harrisson			1.61
			1.56
L. D. Seif	2.213	1.55	1.51
	2.204	1.53	

The average of three assays on Sample 1 is 2.193 with a low of 2.162 (1.4%) and a high of 2.213 (0.91%).

The average of 9 assays on Sample 2 is 1.54 with a low of 1.50 (2.59%) and a high of 1.61 (4.56%).

CONCLUSIONS.

A practical method for Fluidextract of Ipecac is presented which does not yield troublesome emulsions, and by which uniform results may be secured by different analysts.

The value of peroxide-free ether for the assay and the retention of alkaloids by sawdust is confirmed.

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MISCIBLE FLUIDEXTRACT OF IPECAC.*

BY J. A. REESE AND W. G. CROCKETT.

The chief factors to be considered in the manufacture of fluidextract of ipecac are (1) the choice of a menstruum which will exhaust the drug and (2) the obtaining of a fluidextract which will mix with syrup to form a permanent syrup of ipecac. Seventy-three per cent alcohol is effective as a menstruum but produces a fluidextract which is not miscible with syrup. Thirty-seven per cent alcohol, as used in U. S. P. X, renders extraction difficult and does not remove the resins which cause clouding when the fluidextract is mixed with syrup.

A process has been suggested to Sub-Committee No. 11 of the Revision Committee of the U. S. P., wherein the drug is exhausted with 73% alcohol, the alcohol

* Section on Practical Pharmacy and Dispensing, A. PH. A., Madison meeting, 1933.

is then recovered by distillation and the fluidextract finished so as to contain 33% alcohol. The authors claim no credit for the method. This paper merely sets forth the results we obtained in following the method suggested.

METHOD.

Ipecac, in fine powder		1000 Gm.
Menstruum	alcohol 3 volumes	
	water 1 volume.	

Exhaust the drug by percolating slowly, after macerating 48 hours. Reduce the entire percolate to 1000 cc. by evaporation at a temperature not exceeding 60° C. and add 2000 cc. of water. Filter until brilliantly clear and evaporate the filtrate to 600 cc. To this add 300 cc. of alcohol, mix, assay and adjust with a mixture of 1 volume of alcohol and 2 volumes of water.

EXPERIMENTAL.

Duplicate assays on the powdered ipecac used showed 2.12% and 2.13% of ether-soluble alkaloids. Two 200-Gm. portions of drug were taken and a fluidextract prepared from each by the method previously described. The percolate from 200-Gm. portion No. 1 measured 2250 cc. when the drug was exhausted. That from 200-Gm. portion No. 2 measured 2150 cc. When these percolates were later concentrated, diluted with water, filtered and assayed, the filtrate from No. 1 contained a total of 3.48 Gm. of ether-soluble alkaloids, while that from No. 2 contained 3.49 Gm. This shows an average recovery of alkaloids amounting to 82%. This loss of alkaloids was due, certainly in a large part, to their removal in the dense resinous mass which was filtered off. According to the proposed method this mass is not washed to free it of alkaloids.

Two fluidextracts were previously prepared by this method from another lot of U. S. P. drug and made up to approximate volume without actually assaying them. Results are recorded in the following table.

TABLE OF ASSAYED FLUIDEXTRACTS.

Sample No.	Age.	Condition.
1	6 months	Clear
2	6 months	Clear
	Unassayed Fluidextracts.	
1	14 months	Clear
2	14 months	Clear

Syrup of ipecac was prepared from each of these four fluidextracts. At the end of six months all were clear. The syrups made from the unassayed fluidextracts show a faint deposit at the end of fourteen months. Syrups were made from fluidextracts labeled "U. S. P.," obtained from two reliable manufacturing houses. Voluminous precipitates formed in them in the course of a few days.

Attempts were made to prepare fluidextracts by the U. S. P. X process from the two lots of powdered ipecac used in this work. The menstruum would not pass through the drug, even when no packing in the percolator was employed.

MEDICAL COLLEGE OF VIRGINIA,
SCHOOL OF PHARMACY,
RICHMOND, VA.

DIFFICULT PRESCRIPTIONS.*

"IT CAN BE DONE"—SECOND SERIES.

BY J. LEON LASCOFF, PHAR.D.

In 1930, I presented a paper (with demonstrations) before the Section on Practical Pharmacy and Dispensing of the A. PH. A. The title of my paper was, "It Can Be Done." At that time, I was requested to continue my series and to make another report before this same section. However, being busy with the Revision Committee of the United States Pharmacopœia and the revision of our Recipe Book, I did not find time to continue this work. During the last few years, however, I have collected a number of interesting prescriptions which actually were presented for dispensing at our Pharmacy. On this occasion I am going to offer these to you for discussion.

Frequently (judging from the numerous requests for aid which we have received), the pharmacist will be confronted with prescriptions which present difficulties in compounding. In some cases, he will mix the components in the order in which they are named and place a "shake well" label on the bottle, "to cover a multitude of sins."

I am presenting herewith a number of difficult prescriptions which have come to our Pharmacy. At first glance it seems impossible to compound them properly; however, after a little experimental work, we were usually able to dispense it—"secundum artem." After all, we are pharmacists, and it is our responsibility and duty to properly compound medications. The methods used for this set of prescriptions, may be applied not only to these but to many others—I have found from my experience that it "Can Be Done."

Prescription No. 1.

℞

Ext. Bellad.	0.3
Ext. Opii	0.2
Bism. Subnit.	25.0
Mag. Ust.	10.0
Sod. Bicarb.	35.0
Aq. Menth. Pip. *ad*	180.0

If this prescription is compounded as written, a solid rock-like mass soon forms at the bottom of the bottle, which it is impossible to break up, and the patient cannot take the medicine properly. However, the addition of $^1/_2$ fluidounce of glycerin adds sufficient viscosity to hold the heavy powders in perfect suspension.

Prescription No. 2.

℞

Phenobarbital	grains	vi
Pot. Brom.	drachms	iv
Syr. Aurantii	drachms	vi
Water to make	ounces	iii

* Section on Practical Pharmacy and Dispensing, A. PH. A., Madison meeting, 1933.

If this preparation is compounded as written, the Phenobarbital, which is insoluble, settles to the bottom. If it is compounded, using the soluble Phenobarbital Sodium, we still obtain a cloudy mixture, more uniform than the other, but not quite clear. If, however, the Syrup of Orange is replaced by simple syrup which besides having no alcohol (Syrup of Orange contains among other things, citric acid), has a higher water content, we have a clear solution with no precipitation.

Prescription No. 3.

℞

Pot. Bromide	drachms	iv
Chloretone	grains	xv
Aq. Menth. Pip.	ounces	ii
Syrup to make	ounces	iv

There are three ways of compounding this. *First:* The addition of alcohol to dissolve the Chloretone. *Second:* The addition of Acacia to form a suspension. *Third:* Simply boiling the mixture until a clear solution results.

Prescription No. 4.

℞

Codein. Sulph.	grains	iii
Tereben	drachm	i
Ol. Oliv.	drachm	i
Divide in capsules		xii

Once again we find more than one way to compound this preparation. *First:* The addition of the Terebene and Olive Oil to a dry capsule, large enough to contain the volume, followed in this case by dropping into each capsule a $^1/_4$ grain Codeine Sulphate tablet triturate. *Second:* Dissolve Codeine *Alkaloid* in the Olive Oil by heat; add the terebene and seal the capsules.

Prescription No. 5.

℞

Iodi	0.5
Ol. Oliv.	90.0

We find that the Iodine will not completely dissolve in the Olive Oil, nor will it combine with the fatty acids in the Oil as it will with some (example, Sesame Oil). Therefore, it requires either that we heat the oil to dissolve the Iodine, by which process it will undoubtedly settle out, or that we dissolve the Iodine in a little ether and quickly add the Olive Oil by which means we get a clear solution which remains so.

Prescription No. 6.

℞

Creosot. Carb.	drachm	ss
Acetphen.	drachm	ss
Sacch. Lact. *q. s.*		
Mix and make into capsules.		

If the above is compounded as written, the product will always be moist and oily. On the other hand, the addition of sufficient magnesium carbonate in no way

interferes with the therapeutic action of the mixture and at the same time keeps the powder dry and makes a satisfactory product.

Prescription No. 7.

℞

Ichthyol	2.0
Menthol	0.3
Camphor	0.6
Glycerin	10.0
Olive Oil	30.0
Lime Water to make	180.0

If compounded as written, this makes an unsightly mess, as the oily constituents rise to the top and the aqueous remain at the bottom. The proper way to compound this is as follows. Liquefy the Camphor and Menthol by triturating them together; add the Olive Oil; to this add fifteen grains of tragacanth as a suspending agent. The Ichthyol may then be dissolved in the Glycerin and Lime Water and these added to the other components. This gives a homogeneous mixture which will not settle out on standing.

Prescription No. 8.

℞

Camphor	drachms	ii
Oil of Turpentine	ounces	ii
Water	ounces	ii
Oleic Acid sufficient		

In the above prescription the physician evidently has in mind that the Oleic Acid will act as an emulsifying agent for the Oil and Water. Unfortunately, however, this is not the case. If compounded as written, two distinct layers will form with the Oleic Acid strongly favoring the Oil. To properly dispense this requires the procedure: Dissolve the Camphor in the Turpentine; add this to the yolk of one egg in a bottle, gradually, shaking after each addition. When all has been added, add the Water in small portions and a perfect emulsion which remains uniform.

Prescription No. 9.

℞

Yellow Mercurous Iodide	grains	iv
Fowler's Solution	drachms	ii
Water to make	ounces	iv

If this is dispensed as written, there is precipitation of the Mercurous Iodide which is insoluble, and the agonizing uncertainty of dosage. It is replaced by the Mercurous Iodide Red Mercuric Iodide and with the addition of two drachms of Solution of Potassium Iodide (Saturated), a clear solution results in which there is no precipitation, and no uncertainty of dosage for the patient.

Prescription No. 10.

℞

Zinc Stearate	10.0
Zinc Oxide	10.0
Calamine	5.0
Lime Water to make	120.0

The Zinc Stearate will not mix with the Lime Water. This can be overcome by the addition of Glycerin to bring the viscosity of the liquid up to the point where the Zinc Stearate will be held in suspension.

Prescription No. 11.

℞

Zinc Sulph.	grain	i
Sod. Borate	grains	v
Boric Acid	grains	v
Water	ounce	i

Here we have the age-old incompatibility of Zinc Sulphate and Sodium Borate with the formation of Zinc Borate. The Solution of this problem involves the addition of Glycerin to form the soluble Glycero-Borate and a perfectly clear solution results.

Prescription No. 12.

℞

Phenolphthalein	grains	x
Acid Sod. Oleate	grains	xxx
Acid Salicylic	grains	xiv
Menthol	grains	xxx

In the first instance the Menthol, Salicylic Acid and Phenolphthalein were triturated together and when the Acid Sod. Oleate was added a nearly liquid mass resulted, necessitating the addition of enormous amounts of Althea, etc. In the proper manner the Menthol was rubbed up with some milk sugar, and then the other ingredients were added, the Sod. Oleate being added last. Also a small amount of Althea was added thus making a nice plastic mass from which a suitable pill can be made. The pill made by the first method is about three times the size of that made by the second method. This is a distinct disadvantage, as it is always desirable to have a pill as small as possible.

Prescription No. 13.

℞

Liquor Burowi	8.0
Naftalan	8.0
Zinc. Oxid.	20.0
Talc.	20.0
Ol. Oliv.	100.0

Mix the above well and add Lime Water.

In the above, if it be compounded as written, separation will surely take place. We may, if we wish, add magnesium carbonate, but since the Naftalan is in the form of an ointment there would not be enough absorption of the water. Once again, the addition of a small quantity of tragacanth solves the difficulty and gives us the smooth homogeneous product we are looking for.

Prescription No. 14.

℞

Adrenalin	drachm	ss
Sol. Neo Silvol 20%	drachm	i
Menthol Albolene to make	ounce	i

Here we have a separation of oily and aqueous mixtures, which can very readily be overcome by the addition of half a drachm of anhydrous lanolin to make a uniform product.

IODINE IN LIQUID PETROLATUM.

Recently, an interesting problem was brought to my attention—"How can we dissolve inorganic Iodine in Mineral Oil, and in vegetable oil where there is no great absorption by the oil?"

Prescription No. 15.

℞

Iodine	grains	iii
Liq. Petrol. to make	ounce	i

According to F. W. Stedem, a pharmacist of Narberth, Pa., this prescription can be easily put up by triturating the Iodine in a glass mortar, with two-thirds of the oil until as much as possible has been dissolved and then washing the rest into a bottle with the remaining Mineral Oil and holding the container under a stream of hot water for from two to five minutes. However, upon analysis, this product was shown to have only 1.77 grains of Iodine in the finished product.

An Ether Method, which was tried as part of the experimental work, is as follows: Dissolve the Iodine in a little Ether and add the Oil. This, on analysis, shows only 1.66 grains of the Iodine to the fluidounce.

Still another method was the process of triturating the Iodine with the Mineral Oil and allowing the mixture to stand for a time. This, on analysis, has also been found to be low in Iodine, assaying only 2.501 grains of Iodine to the fluidounce.

In my opinion, the best way to put up this preparation is to add to the Iodine, in a glass mortar, ten minims of a saturated solution of Potassium Iodide, picking this up with ten grains of Aquaphor and finally adding the Mineral Oil. In this way I believe, loss of Iodine is avoided, and the therapeutic value of the preparation is in no way affected.

Prescription No. 16.

℞

Digitalis Suppositories in Glycerinated Gelatin Base	
Gelatin	100.0
Glycerin	100.0
Water to make	200.0

Suppositories No. xii

Pulv. Digitalis, Allen's or Squibb's Standardized, $1^1/_2$ grains to each 2 Gm.

Allow the Gelatin to remain in water for one hour and then decant the water. Add the Glycerin and heat on a water-bath until dissolved. Strain and continue the heating until the product weighs 200.0 Gm. Rub the Digitalis with the Glycerin to make a paste and add to the glycerinated gelatin, while the latter is still in the liquid state. Pour into a suppository mold and allow to cool.

AMPULS.

Frequently the pharmacist will be called on to make up some special strength of ampul. In my opinion it is inadvisable for the pharmacist to attempt to make any ampuls but those which cannot be obtained from the manufacturer, as he can

never hope to compete with the manufacturer in releasing large quantities of standard strength ampuls. Again, in making up small quantities of ampuls of some special formula, the pharmacist makes a very strong appeal to the physician.

In putting up such ampuls, instead of using a burette, it will be found very simple and convenient to use a sterile hypo syringe. The solution to be put in ampuls should be prepared in a sterile bottle with a rubber cork, through which the needle may be passed.

Some time ago, I was asked whether it is possible or profitable for a prescription shop to put up ampuls of a special formula. My answer was "Yes" to both queries.

I am glad to say that I am able to show you here, the essential points of ampul filling, and, barring the sterilization process, how little time and effort are really necessary.

Of course, care should be taken that no inferior glass be used, but only the very best.

THE ACCURACY OF MEDICINE DROPPERS WITH FLARED TIPS.[1]

BY WILLIAM J. HUSA[2] AND LYDIA M. HUSA.

The so-called "eye pipettes," which are medicine droppers with flared tips, are commonly used for dropping liquids into the eyes, the flared tip serving to protect the eyes from injury. For the use of pharmacists in dispensing liquids which are to be dropped into the eyes, there are available the "dropping outfits" consisting of a bottle and a dropper packed together in a cardboard box, and the "eye drops bottles'" in which the dropper is contained in the bottle when not in use, the bulb of the dropper serving as a stopper for the bottle.

It has been observed that pharmacists also frequently use these containers and droppers for dispensing liquid medicaments for internal use when the dose is prescribed in drops. In one case the following prescription was dispensed in an "eye drops bottle:"

℞

Sol Atropine Sulph. 1–1000 8

Sig. gtts. iii q 3 h, as necessary for nausea.

The medicine was administered to a child as prescribed, measuring the drops from the dropper with flared tip supplied by the pharmacist. The result was that the child showed symptoms suggesting a slight overdose of atropine sulphate. While no permanent harmful results followed in the case cited, it was thought that possibly the dropper with flared tip delivered somewhat larger drops than the physician intended.

It is well known that the size of drops is variable, being influenced by a number of factors including the surface tension of the liquid, the kind of tip on the dropper, the rate of dropping, the temperature, etc. Various attempts have been made from

[1] Presented before the Section on Practical Pharmacy and Dispensing, A. PH. A., Madison, Wisconsin, 1933.

[2] Head Professor of Pharmacy, University of Florida.

time to time to standardize the size of drops of the various classes of liquids. Thus the International Pharmaceutical Conference at Brussels in 1902 recommended that the pharmacopœias of the world adopt a normal dropper with an external diameter at the tip of 3 mm. and which at 15° C. would deliver distilled water in drops of such size that 20 drops would weigh 1 Gm. Wimmer and Roon (1) reported measurements made with such a standard dropper. It delivered 20 drops to the Gm. of distilled water, 65.5 drops to the Gm. of alcohol and 90.0 drops per Gm. of ether. Scoville (2) recalculated the results of Wimmer and Roon on a different basis, thus showing that the number of drops per minim was 1.36 for distilled water and 3.10 for alcohol. Stated in another way, this means that for drops delivered by the Brussels dropper, each drop of water is equivalent to about 0.74 minim.

In the present study a test was made to determine the volume in minims of the drops delivered by a number of medicine droppers with flared tips. Of 7 droppers tested, using water, 3 delivered drops equal to 1.0 minim, 3 gave drops equal to 1.1 minim and 1 gave drops equal to 1.2 minims. A nasal dropper was found to deliver drops equal to 1.0 minim. The external diameter of the flared tips varied from 4 to 5 mm., as compared with 3 mm. recommended by the Brussels conference.

From these results it is apparent that the medicine droppers with flared tips delivered drops from 35% to 60% larger than recommended by the Brussels conference. This fact should be taken into account by pharmacists at the prescription counter. In doubtful cases it would be well for the pharmacist to check the size of the drops by dropping 10 or 20 drops into a graduate to determine the volume of a drop in terms of minims. From this determination, and by ascertaining the exact dosage intended by the physician, a correct dosage in drops can be specified which will hold good for the particular medicine prescribed and for the particular dropper to be used.

REFERENCES.

(1) Wimmer and Roon, JOUR. A. PH. A., 2 (1913), 1035–1037.
(2) Scoville, "The Art of Compounding," 5th Edition, pages 13–14.

GAINESVILLE, FLA.

SODIUM TETRATHIONATE AND METHYLENE BLUE IN CYANIDE AND CARBON MONOXIDE POISONING.

Of the various antidotes advocated to treat cyanide poisoning two, according to laboratory results, are quite effective. A dose of three to four milligrams of a hydrocyanic acid solution per kilogram of body weight is fatal for the rabbit when administered orally. The intravenous injection of two to three milliliters of a 2 per cent solution of sodium tetrathionate per kilogram of body weight is effective in saving rabbits having received orally three times the minimal lethal dose of hydrocyanic acid (10 milligrams per kilogram of body weight). The sodium tetrathionate solution is administered with the onset of the first symptoms of cyanide poisoning. Rabbits tolerate three times the above therapeutic quantity of tetrathionate without exhibiting any toxic effects.

Methylene blue administered intravenously in the form of a 1 per cent aqueous solution does not afford quite as much protection. Rabbits receiving more than two times the minimal lethal dose (more than six or seven milligrams of hydrocyanic acid per kilogram of body weight) could not be saved. The intravenous injection of quantities in excess of 2.5 of a 1 per cent solution of methylene blue was injurious to the rabbit.—From *Science*.

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

C. B. JORDAN—CHAIRMAN OF EXECUTIVE COMMITTEE, A. A. C. P., EDITOR OF THIS DEPARTMENT.

SUMMARY OF THE PROCEEDINGS OF THE 1933 MEETING OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY.

The thirty-fourth annual meeting of the American Association of Colleges of Pharmacy was held at the Loraine Hotel, August 28 and 29, 1933. One hundred and nine delegates from 48 member-colleges were in attendance. At least five non-member colleges had staff members in attendance.

Following the calling of the roll of member-colleges, a memorial to Professor Suppan was presented by Dean Caspari, and Secretary Cooper read one prepared by Dr. L. E. Warren on the life of Dr. W. A. Puckner.

Before proceeding to business, the Association voted to send greetings to Dean C. W. Johnson who had been taken suddenly ill on his way to the convention and removed to a hospital at Minot, North Dakota.

A resolution relative to the code for pharmacists had been considered by the Executive Committee and was presented by Dean Jordan and adopted by the Association.

> "WHEREAS, It has been suggested that registered pharmacists, registered assistant pharmacists and apprentice pharmacists be removed from the professional status in the code regulating retail pharmacy; be it
>
> "*Resolved*, That the American Association of Colleges of Pharmacy, representing 57 colleges in convention assembled, protest this removal and insist that registered pharmacists, registered assistant pharmacists and apprentice pharmacists retain their professional status as in the original code."

ADDRESS OF THE PRESIDENT.[1]

President Stocking directed attention to some of the Association's achievements in the past, particularly to the significance of the year 1932–1933 in which all member-colleges had a minimum four-year curriculum. The important task for the immediate future is that each member-college should endeavor to perfect its curriculum.

He pointed out the value of the Association's visitation program; and that the American Council on Pharmaceutical Education with representatives from the three allied associations will soon begin to function.

His recommendations were referred to the Committee on Resolutions.

REPORT OF THE SECRETARY-TREASURER.

The secretary-treasurer reported a membership of 57 colleges with two in arrears for dues.

During the year, 16 member-colleges were visited by representatives of the Association. In the three-year period just closed the second series of visits was nearly completed. Fifty-two colleges have been visited at an average expense of $33.76.

The status of Association funds is as follows: cash $382.76, government bonds $5000. Funds in closed banks amount to $9193.21. A total of $1112.41 in dividends was paid during the year and one of the banks has announced another payment for September.

The report was accepted and a committee appointed to audit the accounts, which committee reported later that they were found to be correct.

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[1] For complete address see September JOURNAL.

REPORT OF THE EXECUTIVE COMMITTEE.

Dean Jordan, chairman of the Executive Committee, submitted the following summary of reports of preliminary training of entering students:

Total number entering	1780
Number of high school graduates	1773
Number of special students	7
Number with previous college training	418

Analysis of the figures shows that the number is not abnormally low for last year. One of the larger colleges did not report and one had a reduction of 92 per cent due to requiring a year of collegiate training for entrance. Correcting for these causes the decrease was 23 per cent, but a few colleges had had an unprecedented number in the preceding year because it was the last time a student could enter upon a three-year course. Of the colleges that went to a four-year minimum prior to September 1932, eight enrolled fewer students, four a greater number and two the same number. The percentage having previous college training was 23, a larger figure than before.

The total number of Ph.G., Ph.C. and B.S. degrees awarded to graduates of three- and four-year courses was 1684. Excluding duplicates and including the number who received some other degree 1694 people were graduated. Advanced degrees were awarded to 52, 41 Master of Science, 11 Doctor of Philosophy.

The second series of visits to member-colleges was continued, the following visits being made: Universities of North Carolina, South Carolina and Florida, the Medical College of the State of South Carolina and Louisville College of Pharmacy visited by President Stocking; South Dakota State College, North Dakota State College and the St. Louis College of Pharmacy visited by Dean Lyman; Universities of Idaho, Washington, Montana, Southern California and Tulane, North Pacific College of Oregon, Oregon Agricultural College and State College of Washington by Dean Jordan. The University of Minnesota and Meharry Medical College will be visited early in the year, 1933–1934, and these will complete the second series.

The report contained two recommendations and a supplemental report made at the final session contained two, one of which had been referred from the report of the representative on the American Council on Pharmaceutical Education. All of these recommendations were adopted.

(*1*) "*That* the American Association of Colleges of Pharmacy expresses the desire of pharmaceutical educators to coöperate with educators in other health professions and that our Association stands ready to appoint a committee to meet with similar committees from medicine, dentistry and nursing for the purpose of accomplishing this coöperation (correlation of education in all health professions), and further

"*That* a copy of this resolution be sent to the national educational association of the other health professions.

(*2*) "*That* a standing committee on libraries be created.

(*3*) "*That* the Association contribute $300.00 to the budget of the American Council on Pharmaceutical Education.

(*4*) "*That* the Association discontinue visitation of member-colleges until we can determine how successfully the American Council on Pharmaceutical Education will function."

Dean Jordan presented a resolution which had been adopted by the National Association of Boards of Pharmacy which proposed that the Association of Colleges accept the list of crude drugs prepared by District No. 2 as a minimum list. It was voted that a committee be appointed to study the matter and report at the next annual meeting.

REPORT OF THE SYLLABUS COMMITTEE.

Dean Beard directed attention to important steps in the procedure of revision of the Syllabus, set forth its aims and purposes and urged that the book be given official status.

REPORT OF THE COMMITTEE ON MEMBERSHIP STANDARDS.

Dean Little presented the report of the Committee and almost an entire session was taken up in discussion and revision of the provisions. It was adopted and a copy of the proposed standards is being sent herewith, in accordance with Article VIII, Section 7 of the By-Laws.

REPORT OF THE COMMITTEE TO CONFER WITH THE EXECUTIVE COUNCIL OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Dean Jordan, chairman of this Committee, reported that misunderstandings had been cleared up and now all professional colleges will be treated alike in the matter of their credits. The Executive Council of the Association of American Medical Colleges took the following action, November 14, 1932:

"Premedical courses given in or by professional schools, or advance years taken in high schools will not be considered as acceptable unless the student's credentials have been accepted by an accredited college of arts and science as meeting a part of its requirements for the bachelor's degree."

COMMITTEE REPORTS THAT INCLUDED RECOMMENDATIONS.

The report of the Committee on Establishment of a Pharmaceutical Corps in the United States Army and the report of the Committee on Relations of Boards and Colleges were referred to the Committee on Resolutions and the recommendations will be found under that heading.

REPORT OF THE REPRESENTATIVE ON THE COUNCIL ON PHARMACEUTICAL EDUCATION.

This report was submitted by Dean DuMez, who was made secretary of the Council when organization was completed. It had been agreed "that the setting up of standards for schools of pharmacy should be the first work of the Council and that the standards suggested by Dean Leigh in his presidential address be used as the basis for beginning the work." It had been necessary to defer the actual beginning but the secretary has been "assembling data and perfecting plans for going ahead with the work" and it has been decided to go forward immediately. The report recommended that $300, our proportionate share, be contributed to the budget.

The report was accepted and the recommendation referred to the Executive Committee.

REPORT OF THE COMMITTEE ON HIGHER EDUCATIONAL STANDARDS.

The report which was presented by Dr. Husa contained several recommendations; it was accepted and the recommendations referred to the Committee on Resolutions.

OTHER COMMITTEE REPORTS.

The following reports of standing committees, which contained no recommendations were accepted: Committee on Curriculum and Teaching Methods, Committee on Activities of Students and Alumni Delegates to the American Council on Education.

Reports of special committees and special representatives, that were without recommendations, were accepted as follows: Committee on Student Branches of the A. PH. A.; Representatives to the National Drug Trade Conference; Representative to the N. A. R. D.; Representatives to the National Conference on Pharmaceutical Research; Representative to the Annual Congress on Medical Education and the Reporter on Biological Abstracts.

The work of the Committee on the Study of Pharmacy having been taken over by the Council on Pharmaceutical Education it was voted that it be discontinued.

Dr. Crockett reported that the Drug Trade Bureau of Public Information had ceased to function so a representative will no longer be appointed.

At Dean Caspari's suggestion representation on the Drug Store Survey Committee will be discontinued.

Dean Day's report as representative on the Committee on Centennial Celebration was accepted. The Executive Committee, having given consideration to the need for funds, recommended that the Association give $50 to the Century of Progress Exposition. It was so voted.

REPORT OF THE HISTORIAN.

Dean Kremers submitted an outline of what he hopes to embody in "A History of Pharmaceutical Education in the United States." So far he has written an introduction and part of the "General Survey." In 1931, the first period, early beginnings, 1821 to 1861 was presented; in 1932, the second period the first conference, 1870 to 1879; and this year, 1933, third period, covering the advent of the state university department, 1880 to 1899 has been prepared. The

fourth period which he expects to take up now will cover the second conference, 1900 on. The outlined plan contemplates consideration later of special phases of pharmaceutical education and for this he asked the coöperation of all who have suggestions or material.

ADDRESSES.

The guest speaker at the annual dinner was Dr. Karl Link, professor of biochemistry in the department of agricultural chemistry at the University of Wisconsin, who spoke on "The Role of Science in Modern Education."

At one of the sessions, Dr. Fred Zapffe, secretary of the Association of American Medical Colleges, discussed some educational problems of common interest to medicine and pharmacy.

REPORT OF THE COMMITTEE ON RESOLUTIONS.

The Committee on Resolutions, consisting of Dean Spease, Chairman, Dean Teeters, Dean Curry and Professor Lee, submitted the following report:

"WHEREAS, the President of the Association has submitted such an admirable report and has served us so faithfully, we wish to offer a resolution that he be thanked by the Association for his good work."

The resolution was adopted.

From the President's Address:

"I feel that it would be but a meager tribute on our part if we were to adopt a resolution, extending to Dr. Kremers, the Director of the Course in Pharmacy of the University of Wisconsin and to his staff, our heartiest congratulations on the remarkable record of the first half century of the institution, and expressing our faith and confidence in the future developments of pharmaceutical education in Wisconsin as exemplified by the results of the last fifty years."

"The Fourth Edition of the Pharmaceutical Syllabus which has come from the press since our last meeting is a credit to the Committee that directed the work of preparing it and especially to Dean J. G. Beard, the Chairman of the Committee. This Association as a contributing member of the joint Committee should express to Dean Beard its deep appreciation for the untiring effort which he put forth to bring to completion in such a satisfactory manner the work of preparing and publishing the Syllabus."

Both recommendations were adopted.

From the Report of the Committee on the Establishment of a Pharmaceutical Corps in the United States Army:

"*That* the Association continue its effort to secure the proper recognition of pharmacy in the United States Army and Navy.

"*That* the Association go on record for the recognition of pharmacy on a parity with the Dental, the Veterinary and the Medical Administrative Corps within the Medical Department of the United States Army, and that this be one of the major objectives of the Association for the ensuing year.

"*That* the Committee be continued and instructed to secure, if possible, a hearing before the Secretary of War, the Surgeon-General of the Army, and the Military Affairs Committee of the Senate and the House.

"*That* all the leading pharmaceutical organizations of America including the State Pharmaceutical Associations, be requested to appoint special committees on the establishment of pharmacy properly in the United States Army, all to work together for this good purpose."

All four recommendations were adopted.

From the Report of the Committee on Higher Educational Standards:

"*It is recommended* that the name of the 'Committee on Higher Educational Standards' be changed to the 'Committee on Educational Standards.'

"*It is recommended* that the fourth sentence of Article VII, By-Law 6, be amended to read as follows: 'Graduate work shall be interpreted to mean work done after the completion of the requirements of a standard four-year course in pharmacy.' "

Both the above recommendations were adopted.

The third recommendation which had to do with qualifications for deans of colleges of pharmacy was reported back to the Association for discussion and it was finally referred to the Executive Committee for study and report at the next annual meeting.

From the Report of the Committee on Relation of Boards and Colleges:

"*That* this Conference (District No. 2) for the sake of uniformity and definite meaning urge all colleges of pharmacy to adopt in their catalogs and annual announcements the descriptive names and subjects used in the National Pharmaceutical Syllabus for corresponding courses."

This recommendation was adopted and the report of the Committee on Resolutions as a whole was adopted.

PAPERS.

At the close of the first business session, the Association went to the Museum of the Wisconsin Historical Society. Dr. Schafer welcomed the visitors and Dean Kremers, with illustrative material close at hand, read a paper entitled "Introductory Lecture to a Course in History of Pharmacy."

At one of the sessions two papers dealing with library work were presented. "Use of the Library in Undergraduate Instruction" by Dr. Lee and "A Demonstration of Library Work" by Dr. Richtmann.

NEW MEMBER-COLLEGE.

Xavier University College of Pharmacy, New Orleans, Louisiana, was elected to membership.

RESIGNATION OF A MEMBER-COLLEGE.

The resignation of the University of California, California College of Pharmacy, San Francisco, was accepted.

OFFICERS FOR 1933–1934.

President: Dean L. D. Havenhill, Lawrence, Kansas.

Vice-President: Dean Ernest Little, Newark, New Jersey.

Secretary-Treasurer: Professor Zada M. Cooper, Iowa City, Iowa.

Chairman of Executive Committee: Dean Charles B. Jordan, Lafayette, Indiana.

Members of Executive Committee to serve two years: Professor Charles H. Stocking, Ann Arbor, Michigan; Dean Rufus A. Lyman, Lincoln, Nebraska.

Members of Executive Committee whose terms expire this year: Dean Andrew G. DuMez, Baltimore, Maryland; Dean Townes R. Leigh, Gainesville, Florida.

Member of the Syllabus Committee: Dean Elmer L. Hammond, Oxford, Mississippi.

JOINT SESSION.

At the joint session with the National Association of Boards of Pharmacy, Editor Eberle presented the report of the Fairchild Scholarship Committee. The scholarship was awarded to Miles Edward Drake who received the degree of B.S. in Pharmacy at Oregon State College in June 1933.

Dean Jordan presented a paper, "Is Compulsory Apprenticeship Registration Working a Hardship on Young Men Entering Pharmacy?" The paper was discussed by Mr. Sterling.

Professor Schlichting presented some resolutions that had been referred from the meeting of boards and colleges in District No. 2. The resolutions were all approved.

CONFERENCE OF TEACHERS OF PHARMACY.

Dr. Louis W. Rising, Chairman, presided and the following program of papers was presented:

"The Necessity for Increasing Emphasis on the N. F. in Pharmacy Courses," W. J. Husa.

"Shall Pharmacy Colleges Teach Dental Pharmacy," G. C. Schicks.

"When Should the Course in Incompatibilities Begin and How Should It Be Taught?" H. W. Mantz.

"The Teaching of Incompatibilities," W. G. Crockett.

"Prescription Incompatibilities and Their Problems from the Teaching Standpoint," R. E. Terry.

"How Should a Course in Incompatibilities Be Taught and How Much Time Should Be Devoted to It?" D. B. R. Johnson.

Officers elected for the ensuing year were as follows: *Chairman*, F. V. Lofgren; *Vice-Chairman*, E. D. Davy; *Secretary*, W. G. Crockett.

CONFERENCE OF TEACHERS OF CHEMISTRY.

The Conference was called to order by the Chairman, Dr. Foote. The following program was carried out:

"What the Department of Pharmacy Expects of the Department of Chemistry," H. C. Newton.

"Why Organic Chemistry Should Be Taught in the School of Pharmacy," C. J. Klemme.

"The Inter-Relation of the Department of Pharmacognosy-Pharmacology and Chemistry," B. V. Christensen. (Presented also to Conference of Teachers of Pharmacognosy and Pharmacology.)

Officers elected for the ensuing year were: *Chairman*, H. C. Muldoon; *Secretary*, M. L. Jacobs.

CONFERENCE OF TEACHERS OF PHARMACOGNOSY AND PHARMACOLOGY.

Chairman B. V. Christensen presided and the following program of papers was presented:

"Four Years' Experience in Teaching Pharmacology," E. R. Serles.

"Visual Instruction in Pharmacognosy," F. H. Eby.

"Microscopical Pharmacognosy," E. P. Claus.

"Shall the Relationship of Botany to Pharmacognosy Be Maintained?" C. W. Ballard.

The New Syllabus Outline of Pharmacology was discussed.

Officers chosen for the ensuing year were: *Chairman*, C. W. Ballard; *Secretary*, A. J. Schwarz.

CONFERENCE OF TEACHERS OF PHARMACEUTICAL ECONOMICS.

Dr. Philip, *Chairman*, presided. The program consisted of a discussion of the National Industrial Recovery Act and the code as applied to the drug store.

The following officers were selected for the ensuing year: *Chairman*, F. J. Amrhein; *Secretary*, Paul C. Olsen.

ZADA M. COOPER, *Secretary*.

Approved: CHARLES B. JORDAN, *Chairman Executive Committee*.

INDIANA PHARMACEUTICAL ASSOCIATION EXHIBIT.

The Indiana Pharmaceutical Association had an exhibit at the State Fair along with the Medical Society and the Associations of the Dentists and Nurses. The committee in charge of making the display consisted of Dean Edward H. Niles, H. J. Borst and Joe Wade, all of Indianapolis. The display consisted of prescription utensils and crude drugs loaned the committee by the Indianapolis College of Pharmacy and Eli Lilly & Company with explanation cards and displays. In a ten-foot show case in the front, was a selection of crude drugs, laboratory equipment and a very attractive display of gelatin and eight different colors of empty capsules including the large veterinary capsules. On top of the case were pictures and samples showing steps in the making of pills. A large percolator was operating showing the process of manufacturing aromatic cascara. Ma Huang products and pictures showing the manufacture, attracted attention, along with other crude drugs.

MEDICINE AND PHARMACY.

I am of the opinion that never before in the history of medicine and pharmacy in the United States have there been better conditions for close coöperation than there are to-day. Both medicine and pharmacy are rapidly advancing, both are fundamentally sound and each deserves the confidence of the other. In fact, a close coöperation of the two professions will be mutually beneficial and will contribute to the public health of the nation.—C. B. Jordan, Dean, School of Pharmacy, Purdue University, in *Med. Economics*.

THE PROFESSIONAL PHARMACY.*

BY FRANK A. DELGADO AND ARTHUR A. KIMBALL, U. S. DEPARTMENT OF COMMERCE.

(*Continued from page 901.*)

CHAPTER VII. STUDY OF LEADING INGREDIENTS.

A total of 20,000 prescriptions, 10,000 from professional pharmacies and 10,000 from commercial type drug stores, were carefully studied and a compilation of all ingredients occurring therein was made. A list was made of all ingredients, classified according to type, showing the number of times that each ingredient occurred. Space does not permit the inclusion of the entire list, but all "leading" ingredients, those occurring five times or more each in 10,000 prescriptions, are listed in this report, with the exception of manufacturers' brand-named specialties, which cannot be published under the policy of the Department of Commerce. However, a complete summary of the leading manufacturers' specialties according to their therapeutic use and action is included. It is worth while to refer to "The Prescription Ingredient Survey," written by Prof. E. N. Gathercoal and published by the AMERICAN PHARMACEUTICAL ASSOCIATION, which lists the leading manufacturers' specialties and other ingredients.

In the first prescription department report on the Survey, all ingredients occurring 25 times or more each in 15,063 prescriptions filled in commercial type drug stores were considered leading ingredients and listed as such. Inasmuch as some might consider the list of ingredients occurring 25 times or more not sufficiently inclusive, it was decided to use all ingredients occurring 5 times or more in this second report. This minimum number of occurrences, only 5 times in 10,000 prescriptions, might be considered too small to enable an ingredient to be classed as a "leading" ingredient, but when it is considered that only 684 out of the 1725 different ingredients occurred as many as 5 times, it will be seen that the number of leading ingredients is small compared with the number of prescription items carried by the usual drug store.

It is realized that the accompanying lists of leading ingredients omit some items which some pharmacists may consider important and include other items which might be considered unimportant, according to the experience and requirements of some members of the profession. However, it should be kept in mind that the ingredients listed are those which actually occurred in the 20,000 prescriptions studied. Syrup of ginger, for example, occurred 160 times and has a high place in the list. This was brought about by the unusual preference of one doctor for this vehicle, this doctor writing a substantial number of the prescriptions studied in one store. It is not likely that syrup of ginger would ordinarily receive such a high place on a list of leading ingredients. Due to manufacturing within the pharmacies and the fact that these lists contain only ingredients prescribed as such, some important items do not have a place in these lists. For example, citric acid does not even appear in the list. Yet Store 6-B purchased and used an average of 7 pounds (worth $3.18) a month over a six months' period. Another example is fluidextract of wild cherry, which was extensively used in the drug stores in manufacturing syrup of wild cherry, and yet not being prescribed in the fluidextract form, does not appear among the leading ingredients. A number of galenicals, such as waters, syrups, simple percentage solutions, etc., are in all probability manufactured more economically by the pharmacist. However, not all of the ingredients used in their preparation appeared in the prescriptions studied.

Among other items usually stocked in the prescription department which may not be found at all, or only to a limited extent in these or any other lists based on ingredients occurring in prescriptions are the following: Spirits (oil) of turpentine, castor oil, acid muriatic, acid oxalic, calcium oxide (lime for lime water), carbon tetrachloride, prepared chalk (technical), sodium fluoride, flaxseed whole and ground, powdered orris root, solution of formaldehyde, denatured and wood alcohol, benzine, caramel, honey, chloride of lime, Paris green, plaster of Paris, powdered pumice, whiting, ether (anesthesia), ether (motor), soap liniment, tincture of arnica, fluidextract of rose soluble, fluidextract of sarsparilla, fluidextract of tolu, fluidextract of wild cherry, pills cathartic compound improved, dispensary tablets, potassium bicarbonate, potassium permanga-

* See Table of Contents, page 671, July issue of the JOURNAL.—This instalment concludes the article which will be made up in paper-covered reprints; for price, see August JOURNAL, page 799.

nate, saccharine, extract of lemon, extract of vanilla, tablets veronal, hypodermic tablets of strychnine sulphate, capsules of apiol and ergotine compound, capsules of quinine sulphate and bisulphate, santal oil, blue ointment, carbolic (phenol) ointment, compound licorice powder, ampuls corpus luteum, ampuls ovarian substance, oil of cotton seed, neatsfoot oil, oil of cedar, oil of citronella and oil of cloves. Biologicals and insulin are two other outstanding types of prescription department items which may have important sales in many drug stores, and yet fail to appear on a list of the leading ingredients prescribed.

To a certain extent every drug store presents an individual problem predicated upon the prescribing habits of its contributing physicians, geographical location, health and weather conditions, etc., thus making it impossible to evolve a single formula establishing the correct stock of drugs for all drug stores. But with a few additions and deletions the accompanying lists should serve as an excellent guide to the pharmacist confronted with the problem of placing his opening order for a prescription department stock, and to the wholesaler in supplying the requirements of retailers.

For purposes of convenience, the leading ingredients have been classified into the following four types: 1. Chemicals; 2. Galenicals and pharmaceuticals; 3. Botanicals, oils, etc.; and 4. Proprietaries or manufacturers' specialties (shown by therapeutic use only). The number of items in each group, together with a suggested quantity and the prevailing cost price at the time of the Survey, are shown. A number of items listed under chemicals might not be so classified if the full scientific significance of the term was applied. Such items have been classified as chemicals for convenience and other practical purposes, due among other reasons to the fact that they are usually placed on the drug store shelves along with chemicals and are frequently distributed by chemical manufacturers. In the same manner, a few items classified under galenicals and botanical drugs do not strictly fit under these descriptions. Examples of these are lanolin and petrolatum which were placed along with ointment bases, as they are usually placed on the prescription department shelves.

In the majority of instances, the official English titles have been employed. However, a few exceptions will be noted, due to a desire to group certain chemicals and pharmaceuticals together in certain classes. For example, all of the salts of iron and mercury are grouped together.

Table XXXVII gives a summary of the leading ingredients, those prescribed at least five times each. It will be seen that chemicals had the most prominent place among the leading ingredients. The 164 chemicals represented only 24 per cent of the 684 leading ingredients in numbers, but were prescribed an average of 135 times each, or a total of 22,087 times. Galenicals, which had the next best showing, were prescribed an average of only 49 times each. Chemicals were actually called for on prescriptions more times than the combined total for the other three groups of leading ingredients.

It is particularly interesting to note that for the comparatively small sum of $93.51, all of the 164 leading chemicals could be stocked by the pharmacist, the average cost of a typical order being only $0.57 per chemical. On the other hand, a typical order of each of the 253 specialties occurring among the leading ingredients would cost a total of $288.98, or an average of $1.14 per specialty. Thus it is seen that the low average investment required in the case of chemicals, and their fine movement rate, both of which factors are an indication of low operating cost, give chemicals a distinct advantage from the point of view of profit possibilities to the pharmacist. The entire 684 leading ingredients could be stocked for an investment of $605.77, according to cost prices at the time of the Survey. With a few exceptions, to account for a store's individual and peculiar customer demands and to provide items of an emergency nature, these 684 items ought to comprise a sufficient opening order for the prescription department of a usual commercial type drug store, and should form the basis for the opening order for a professional pharmacy. In fact, some stores would probably find the entire 684 items to be too large an opening order. Pharmacists wishing to be very conservative until the demand is proved might order at the start only those items which occurred at least 10 times each, which would probably comprise an adequate opening order for the prescription department of the average commercial type pharmacy. If only the 445 items which occurred 10 times or more each in 10,000 prescriptions were ordered, the investment required would amount to only $387. The opening order would then be composed of 126 chemicals valued at $74.88, 151 galenicals costing $132.07, 147 specialties valued at $168.17 and 21 botanicals, oils, etc., valued at $11.88, plus necessary

emergency items. Necessary additions to the stock could later be made when actually received on prescriptions to be filled. This procedure will help to avoid overstocking on the opening of a new store.

The cost prices shown in the table and lists are based on the best chemicals and other types of ingredients. Even thus, the 684 leading ingredients could be purchased for only a little more than $600. This fact should convince the pharmacist opening a new drug store of the advisability of stocking only the best chemicals and other ingredients, as any difference in price based on quality would be of little importance when considered in terms of the individual prescription.

Realizing the immense practical value of any information on the subject of the cost of stocking a prescription department, the authors contacted a leading manufacturer of fine prescription chemicals. This manufacturer offers pharmacists their choice of three assorted lots of chemicals, one containing 102 items and costing approximately $50, one containing 153 items and costing approximately $75, and the other consisting of 253 items and costing approximately $125. Upon checking the survey list against the manufacturer's lists, it was found that only 25 per cent of the items on the manufacturer's smallest list and 43 per cent of his largest list did not occur on the Survey list. This difference would have been far less if the manufacturer's lists had included narcotics, as does the Survey list, and if the manufacturer's lists had not included quite a few specialties, galenicals, balsams, oils, etc., in addition to chemicals. The average cost per item on the manufacturer's lists was $0.50, as compared with an average cost of $0.57 for the leading chemicals in the Survey. This difference is easily accounted for by the fact that the Survey list included a number of narcotics with an average cost of approximately $1.70. In fact, the 11 narcotics among the 164 leading chemicals would cost about $19 and represent nearly 20 per cent of the investment required in stocking the 164 chemicals. Yet in spite of the inclusion of these comparatively expensive narcotic items, the 164 chemicals would require an investment of only $93.51.

The quantities shown on the lists are considered the most economical for the average store to purchase, being neither too large nor too small. In the case of chemicals, the quantities should be sufficient to take care of the requirements of the average store for a considerable period of time. In the case of certain items such as acid acetylsalicylic (aspirin), a pound at $1.05 rather than a quarter pound at $0.31 might advantageously be ordered, but when it is considered that the saving on this item would only be $0.05 a quarter pound, it is not believed that the valuable and limited space required to shelve the larger package would be warranted.

Conversely, there are a few instances where the reader may feel that the quantities mentioned are too large. Here again it is largely a case of individual opinion. For example, acid benzoic was prescribed an average of only three times in each of five stores studied, yet 4 oz. at $0.27 rather than 1 oz. at $0.18 is suggested. One reason for this is the decided price differential and another that the 1-oz. packages are almost too small to allow of easy handling. In using the list it should be borne in mind that a number of items such as boric acid, are increased in quantity due to the fact that two forms, such as powdered and crystal, are necessary. There are also a few chemicals which should be stocked in two or even three sizes, and a very few instances where one or two extra packages are desirable to meet the demands of the occasional "over-the-counter" call for an unbroken package. Only one pound of certain chemicals, such as magnesium sulphate (Epsom Salt) is designated, the primary purpose of the list being to show the quantity necessary to meet prescription demands. Naturally, a much larger quantity of this and other chemicals used for other purposes would have to be stocked, put up in convenient packages, or in 5-lb. to 100-lb. lots. In allocating quantities, the factors of possible deterioration, potency and extent of use have been kept in mind.

It will be seen that the list of 164 leading chemicals contains a number of alkaloids, such as cinchonidine, cinchonine, cocaine, codeine, ephedrine, eserine, morphine and strychnine. Most of these alkaloids, with the exception of cocaine and ephedrine, used in oil solutions, are very rarely used in compounding prescriptions, though often prescribed.

Manufacturers' price lists seldom quote prices on narcotic chemicals, galenicals and pharmaceuticals, due to the tendency of the prices to fluctuate, but the prices shown on the lists were obtained from reliable sources.

A study was made of the 668 official prescriptions analyzed for commercial type Store 6-B

and it was found that chemicals predominated in approximately 50 per cent of them and were present in many others. As seen by consulting Tables XVI, XVII and XVIII the cost of ingredients in prescriptions containing only official ingredients was low. This average item investment of only $0.57 for chemicals supplies a reason for that finding.

TABLE XXXVII.—SUMMARY OF INGREDIENTS WHICH OCCURRED FIVE TIMES OR MORE EACH.

Type of Ingredient.	Number of Ingredients.	Per Cent of Total.	Total Value of Opening Order.	Average Cost per Item.	Number of Times These Ingredients Were Prescribed. Total.	Per Cent of Total.	Average per Ingredient.
Chemicals.....	164	24.0	$ 93.51	$0.57	22,087	51.3	135
Galenicals.....	234	34.2	206.15	0.88	11,357	26.4	49
Specialties.....	253	37.0	288.98	1.14	8,625	20.0	34
Botanical Oils, etc...	33	4.8	17.13	0.52	983	2.3	30
Total.....	684	100.0	$605.77	$0.89	43,052	100.0	63

The last column in each of these ingredient tables shows the average number of times each ingredient occurred in the "U. S. P.-N. F. Ingredient Survey," which is described at more length later in this chapter. This Survey was conducted by Prof. E. N. Gathercoal and was based on 121,924 prescriptions in the states of New York, Maryland, Missouri and California. These prescriptions were obtained from professional pharmacies, commercial type drug stores with a good prescription business, and many commercial type stores which filled less than ten prescriptions a day. The data on prescription ingredients prepared by the National Drug Store Survey was contributed as the Missouri portion of the survey. The publication from Professor Gathercoal's survey is entitled: "The Prescription Ingredient Survey," and is published by the AMERICAN PHARMACEUTICAL ASSOCIATION. It is believed that the average for these four states provides a valuable comparison with the occurrence of ingredients in the St. Louis stores forming the test stores in this report.

NOTE: Foot-note 1 in each of the lists. Items so marked are generally important throughout the country, occurring at least 10 times per 10,000 prescriptions in *each* of the four states represented in "The Prescription Ingredient Survey." If an item appeared in either set of 10,000 prescriptions from Missouri it qualified as to Missouri. In rare cases the foot-note is applied to an item which fell slightly below the requirements or varied considerably in just one state for some unusual reason.

TABLE XXXVIII.—LIST OF 164 CHEMICAL INGREDIENTS OCCURRING 5 TIMES OR MORE IN EACH 10,000 PRESCRIPTIONS FROM PROFESSIONAL AND COMMERCIAL TYPE DRUG STORES.

Rank in Group.	Leading Chemicals.	Source of Authority.	Unit.	Unit Price.	Number of Occurrences per 10,000 Prescriptions. St. Louis Commercial Type Drug Stores.	St. Louis Professional Pharmacies.	Average in Pharmacies throughout the U. S.
79	Acetanilid[1]	U. S. P. X	4 oz.	$0.17	35	6	23.2
147	Acetone	U. S. P. X	1 lb.	0.42	...	7	3.1
4	Acetphenetidin[1,2]	U. S. P. X	4 oz.	0.53	721	306	350.0
2	Acid, Acetylsalicylic[1,3]	U. S. P. X	4 oz.	0.31	896	343	476.2
46	Acid, Arsenous[1]	U. S. P. X	1 oz.	0.13	64	45	46.7
47	Acid, Benzoic[1]	U. S. P. X	4 oz.	0.29	14	92	25.9
11	Acid, Boric[1] (1 lb. powder, 1 lb. crystal)	U. S. P. X	2 lb.	0.44	153	345	174.0
53	Acid, Hydrochloric (Dilute)[1]	U. S. P. X	1 pt.	0.30	31	67	53.4
140	Acid, Lactic	U. S. P. X	4 oz.	0.29	3	6	3.6
148	Acid, Nitrohydrochloric (Dilute)	N. F. V	1 oz.	0.15	...	7	5.1

141	Acid, Pyrogallic (Pyrogallol)	U. S. P. X	1 oz.	0.31	...	9	0.8
18	Acid, Salicylic[1]	U. S. P. X	8 oz.	0.22	47	296	122.3
91	Acid, Tannic[1]	U. S. P. X	1 oz.	0.18	17	16	20.9
149	Acid, Tartaric	U. S. P. X	1 lb.	0.54	7	...	0.8
43	Alcohol[1]	U. S. P. X	1 gal.	4.00	50	71	89.5
92	Alum[1] { 1 lb. powder, 1 lb. burnt, 1 lb. crystal }	U. S. P. X	3 lbs.	0.77	12	21	20.7
67	Aluminum Acetate[4]	.....	4 oz.	0.31	11	54	7.1
62	Amidopyrine[1]	U. S. P. X	1 oz.	0.75	45	31	135.8
86	Ammonium Bromide[1]	U. S. P. X	4 oz.	0.24	12	24	26.2
106	Ammonium Carbonate[1]	U. S. P. X	4 oz.	0.21	13	11	26.7
16	Ammonium Chloride[1]	U. S. P. X	4 oz.	0.13	297	120	208.4
130	Ammonium Iodide	U. S. P. IX	1 oz.	0.43	10	2	5.8
59	Antipyrine[1]	U. S. P. X	1 oz.	0.27	67	19	62.3
1	Aqua (Distilled)[1]	U. S. P. X	5 gal.	1.50	833	1144	839.5
17	Atropine Sulphate[1]	U. S. P. X	1/8 oz.	0.48	169	240	125.1
75	Barbital[1,5]	U. S. P. X	4 oz.	1.30	7	45	24.9
100	Barbital Sodium	U. S. P. X	1 oz.	0.65	4	23	6.1
137	Barium Sulphate	U. S. P. X	1 lb.	0.21	1	9	3.6
154	Betanaphthol Benzoate	.....	1 oz.	0.27	6	...	0.7
35	Bismuth Subcarbonate[1]	U. S. P. X	4 oz.	0.50	97	67	104.0
131	Bismuth Subgallate[1]	U. S. P. X	1 oz.	0.25	6	5	17.4
24	Bismuth Subnitrate[1]	U. S. P. X	4 oz.	0.46	176	76	131.9
19	Caffeine[1]	U. S. P. X	1 oz.	0.29	214	78	73.3
9	Caffeine Citrated[1]	U. S. P. X	4 oz.	0.72	451	163	201.7
81	Calamine Prepared[1]	N. F. V	1 lb.	0.47	23	17	46.1
127	Calcium Bromide	U. S. P. X	1 oz.	0.17	4	9	5.8
60	Calcium Carbonate, Precipitated[1]	U. S. P. X	1 lb.	0.21	39	41	33.4
111	Calcium Chloride	U. S. P. X	4 oz.	0.20	15	5	8.3
120	Calcium Gluconate	.....	4 oz.	0.35	1	13	7.1
155	Calcium Glycerophosphate	U. S. P. X	1 oz.	0.24	5	1	7.4
82	Calcium Lactate[1]	U. S. P. X	4 oz.	0.29	13	27	28.4
31	Calomel[1]	U. S. P. X	4 oz.	0.47	110	91	81.8
29	Camphor[1]	U. S. P. X	1 oz.	0.15	128	89	85.0
44	Camphor Monobromate[1]	U. S. P. IX	4 oz.	0.70	98	23	46.2
109	Carmine	N. F. V	1 oz.	0.51	15	8	7.0
83	Cerium Oxalate[1]	U. S. P. IX	4 oz.	0.20	24	13	41.6
93	Charcoal[1]	U. S. P. X	4 oz.	0.22	27	6	20.8
73	Chloral Hydrate[1]	U. S. P. X	4 oz.	0.38	37	16	44.3
102	Chloroform	U. S. P. X	1 lb. and 4 oz.	0.75	14	11	9.3
99	Cinchonidine	.....	1 oz.	0.95	28	...	...
37	Cinchonidine Sulphate	U. S. P. X	1 oz.	0.62	160	...	13.8
132	Cinchonine	U. S. P. X	1 oz.	0.67	10	1	...
98	Cinchonine Sulphate	N. F. V	1 oz.	0.50	22	7	3.8
96	Cinchophen[1]	U. S. P. X	1 oz.	0.34	20	12	27.9
56	Cocaine[6]	U. S. P. X	1/8 oz.	1.63	33	59	2.2
30	Cocaine Hydrochloride[1,6]	U. S. P. X	1/8 oz.	1.44	71	145	105.0
84	Cocaine Nitrate[6]	.....	1/8 oz.	1.55	...	37	3.0
133	Cocaine Sulphate[6]	.....	1/8 oz.	1.50	5	6	1.4
51	Codeine[6]	U. S. P. X	1/8 oz.	1.84	56	44	2.3
12	Codeine Phosphate[1,6]	U. S. P. X	1/4 oz.	2.45	361	100	99.6

3	Codeine Sulphate[1,6]	U. S. P. X	1/4 oz.	2.69	610	433	633.7
95	Cotarnine Chloride (Stypticin)[6]	U. S. P. X	1/8 oz.	1.38	21	12	8.1
70	Creosote (Beechwood)[1]	U. S. P. X	4 oz.	0.40	45	12	14.8
116	Creosote Carbonate	U. S. P. X	1 oz.	0.26	10	6	6.7
97	Digitalin	.....	15 gr.	1.10	16	16	5.7
41	Ephedrine	.....	1/8 oz.	0.81	72	57	0.7
128	Ephedrine Hydrochloride	.....	1/8 oz.	0.70	6	7	7.0
34	Ephedrine Sulphate[1]	.....	1/8 oz.	0.69	67	109	68.1
134	Eserine (Physostigmine)	.....	1 gr.	0.25	...	11	...
150	Eserine Sulphate (Physostigmine Sulphate)	U. S. P. VIII	5 gr.	0.90	1	6	1.8
49	Ethylmorphine Hydrochloride (Dionin)[1,6]	U. S. P. X	1/8 oz.	1.60	34	69	67.9
13	Glycerin[1]	U. S. P. X	10 lbs.	2.00	324	132	259.3
103	Guaiacol	U. S. P. X	1 oz.	0.29	23	2	8.9
85	Guaiacol Carbonate[1]	U. S. P. X	1 oz.	0.77	20	17	28.8
76	Homatropine Hydrobromide[1]	U. S. P. X	5 gr.	0.45	10	34	29.8
57	Iodine (Resublimed)[1]	U. S. P. X	1 oz.	0.46	23	64	26.2
143	Iodoform (two 1/8 oz.)	U. S. P. X	1/4 oz.	0.30	2	6	1.7
65	Iron Reduced[1]	U. S. P. X	1 oz.	0.20	37	31	19.7
156	Iron (Ferrous) Sulphate (Copperas)	U. S. P. X	1 lb.	0.24	5	1	3.6
112	Lead Acetate	U. S. P. X	1 lb.	0.35	10	8	7.0
107	Lithium Citrate	N. F. V	1 oz.	0.24	24	...	2.4
101	Magnesium Carbonate[1]	U. S. P. X	1 lb.	0.36	6	20	39.5
50	Magnesium Oxide (light)[1]	U. S. P. X	1 lb.	0.69	48	53	59.5
71	Magnesium Oxide (Heavy)[1]	U. S. P. X	1 lb.	0.69	57	...	36.5
69	Magnesium Sulphate[1]	U. S. P. X	1 lb.	0.23	16	43	18.8
144	Magnesium Sulphate Anhydrous	U. S. P. X	4 oz.	0.31	8	...	0.7
104	Manganese Dioxide (Precipitate)	U. S. P. IX	4 oz.	0.28	25	...	3.3
26	Menthol[1]	U. S. P. X	1 oz.	0.44	110	130	140.2
68	Mercury Ammoniated[1]	U. S. P. X	1 oz.	0.23	15	45	32.8
61	Mercury Chloride, Corrosive (Corrosive Sublimate)[1]	U. S. P. X	1 oz.	0.18	25	53	43.2
121	Mercury Iodide, Red (Biniodide)	U. S. P. X	1 oz.	0.42	9	5	5.0
113	Mercury Iodide, Yellow (Protoiodide)	U. S. P. X	1 oz.	0.43	10	7	3.1
74	Mercury Oxide Yellow[1]	U. S. P. X	1 oz.	0.34	28	25	13.7
40	Methenamine[1]	U. S. P. X	4 oz.	0.24	124	10	65.7
138	Methylene Blue	U. S. P. X	1 oz.	0.30	10	...	2.7
27	Milk Sugar (Lactose)[1]	U. S. P. X	1 lb.	0.47	129	104	96.3
151	Morphine[6]	U. S. P. X	1/8 oz.	1.50	6	...	1.2
28	Morphine Sulphate[1,6]	U. S. P. X	1/8 oz.	1.45	197	31	93.0
77	Naphthalene	U. S. P. VIII	1 lb.	0.23	...	44	0.3
23	Phenobarbital[1]	U. S. P. X	1 oz.	0.78	174	82	184.9
139	Phenobarbital Sodium	.....	1/2 oz.	0.92	3	7	30.5
7	Phenol[1]	U. S. P. X	1 lb.	0.43	300	353	230.4
20	Phenolphthalein[1]	U. S. P. X	4 oz.	0.33	188	91	97.3
25	Phenyl Salicylate (Salol)[1]	U. S. P. X	4 oz.	0.39	160	84	131.0

48	Pilocarpine Hydrochloride[1]	U. S. P. X	5 gr.	0.26	23	81	21.2
45	Potassium Acetate[1]	U. S. P. X	4 oz.	0.24	79	36	46.3
114	Potassium Bicarbonate[1]	U. S. P. X	1 lb.	0.31	9	8	17.6
52	Potassium Bromide[1]	U. S. P. X	4 oz.	0.18	67	33	53.5
58	Potassium Chlorate[1]	U. S. P. X	4 oz.	0.22	63	24	32.7
151	Potassium Chloride	N. F. V	1 lb.	0.30	6	1	3.4
55	Potassium Citrate[1]	U. S. P. X	4 oz.	0.24	71	22	96.0
15	Potassium Iodide[1]	U. S. P. X	4 oz.	0.73	279	149	157.8
89	Potassium Permanganate[1]	U. S. P. X	4 oz.	0.17	19	15	22.0
54	PotassiumSulphocyanate	.....	4 oz.	0.33	79	16	12.7
161	Potassium Sulphurated (Potassium Sulphide)	U. S. P. X	4 oz.	0.28	...	5	5.1
63	Quinine Bisulphate	U. S. P. X	1 oz.	0.76	67	5	16.3
145	Quinine Dihydrochloride	U. S. P. X	1 oz.	0.86	5	3	1.1
122	Quinine Hydrobromide	U. S. P. X	1 oz.	0.81	2	12	8.9
72	Quinine Hydrochloride	U. S. P. X	1 oz.	0.83	33	23	11.0
123	Quinine Salicylate	U. S. P. IX	1 oz.	0.83	9	5	9.2
22	Quinine Sulphate[1]	U. S. P. X	1 oz.	0.65	169	96	111.4
32	Resorcinol (Resorcin)[1]	U. S. P. X	1 oz.	0.27	32	167	56.9
152	Santonin	U. S. P. X	1/8 oz.	1.32	5	2	4.9
162	Silver Iodide	.....	1 oz.	0.95	...	5	0.5
124	Silver Nitrate[1]	U. S. P. X	1 oz.	0.39	11	3	10.4
117	Sodium Acetate	U. S. P. X	4 oz.	0.21	15	1	3.7
163	Sodium Arsenate	N. F. V	4 oz.	0.24	5	...	1.9
8	Sodium Benzoate[1]	U. S. P. X	4 oz.	0.23	507	139	102.1
10	Sodium Bicarbonate[1]	U. S. P. X	1 lb.	0.14	334	234	352.6
36	Sodium Borate[1] (4 oz. crystals, 4 oz. powders)	U. S. P. X	8 oz.	0.40	23	139	59.5
5	Sodium Bromide[1]	U. S. P. X	1 lb.	0.53	466	301	310.5
105	Sodium Chloride[1]	U. S. P. X	1 lb.	0.11	15	10	12.4
33	Sodium Citrate[1]	U. S. P. X	4 oz.	0.19	164	33	44.5
158	Sodium Hypophosphite	N. F. V	4 oz.	0.33	...	6	1.2
38	Sodium Iodide[1]	U. S. P. X	4 oz.	1.02	89	52	46.2
94	Sodium Nitrite	U. S. P. X	4 oz.	0.20	22	11	7.9
118	Sodium Perborate	N. F. V	1 lb.	0.10	1	14	2.7
119	Sodium Phosphate[1]	U. S. P. X	1 lb.	0.26	6	9	16.2
115	Sodium Phosphate Monobasic (Sodium Biphosphate)[1]	U. S. P. X	4 oz.	0.27	7	10	12.7
6	Sodium Salicylate[1]	U. S. P. X	1 lb.	0.75	576	156	242.0
135	Sodium Sulphate (Glauber's Salt)	U. S. P. X	1 lb.	0.25	2	9	6.6
159	Sodium Sulphocyanate	.....	1 oz.	0.19	5	1	2.5
64	Starch[1]	U. S. P. X	1 lb.	0.31	12	57	33.2
90	Strontium Bromide[1]	U. S. P. IX	4 oz.	0.27	15	19	41.7
164	Strontium Salicylate	U. S. P. X	1 oz.	0.22	5	...	11.7
125	Strychnine	N. F. V	1/8 oz.	0.19	1	13	2.5
110	Strychnine Nitrate	U. S. P. X	1/8 oz.	0.20	21	1	4.3
14	Strychnine Sulphate[1]	U. S. P. X	1/8 oz.	0.16	310	140	134.8
80	Sucrose[1]	U. S. P. X	1 lb.	0.27	41	...	18.7
129	Sulphonethylmethane (Trional)	U. S. P. X	1 oz.	0.50	2	11	4.1
78	Sulphonmethane (Sulphonal)	U. S. P. X	1 oz.	0.40	3	39	8.5

39	Sulphur Precipitated[1]	U. S. P. X	1 lb.	0.36	32	103	47.6
153	Sulphur Washed	U. S. P. X	1 lb.	0.22	7	...	5.6
142	Talcum	U. S. P. X	1 lb.	0.17	3	6	11.0
108	Terpin Hydrate[1]	U. S. P. X	4 oz.	0.21	21	3	12.8
146	Theophyllin	U. S. P. X	1 oz.	1.65	...	8	3.3
136	Thymol	U. S. P. X	1 oz.	0.26	2	9	9.1
66	Veronal (Barbital)	U. S. P. X	1 oz.	3.00	48	18	...
160	Zinc Acetate	U. S. P. X	4 oz.	0.18	6	...	1.8
42	Zinc Oxide[1]	U. S. P. X	1 lb.	0.39	49	80	102.1
126	Zinc Phenolsulphonate	U. S. P. X	4 oz.	0.17	5	9	7.0
88	Zinc Phosphide	.....	1 oz.	0.24	35	...	1.8
87	Zinc Sozoiodolate (Sozoiodole-Zinc)	.....	25 Gm.	3.25	2	34	3.6
21	Zinc Sulphate[1]	U. S. P. X	4 oz.	0.20	42	229	117.3
	Total			$93.51	12,723	9364	

NOTE: These 164 leading chemical items have an average cost of $0.57.

[1] These items appeared as leading ingredients in the prescriptions studied in each of the four states represented in the "U. S. P.-N. F. Ingredient Survey." See text following Table XLII.

[2] This item was prescribed under the name "Phenacetin" 441 times in prescriptions from commercial type stores and 223 times in professional store prescriptions.

[3] This item was prescribed as a manufacturer's specialty 92 times in prescriptions from commercial type stores and 88 times in professional store prescriptions.

[4] See foot-notes 121 and 122 on pages 128 and 129 of "The Prescription Ingredient Survey," published by the AMERICAN PHARMACEUTICAL ASSOCIATION.

[5] Also see "Veronal," which is listed separately to show the demand under each name.

[6] Items so marked come within the scope of the Federal Narcotic Law. An official order blank and a monthly report is absolutely necessary.

TABLE XXXIX.—LIST OF 234 GALENICALS AND RELATED ITEMS OCCURRING 5 TIMES OR MORE PER 10,000 PRESCRIPTIONS FROM PROFESSIONAL AND COMMERCIAL TYPE DRUG STORES.

Rank in Group.	Leading Galenicals.	Source of Authority.	Unit.	Unit Price.	Number of Occurrences per 10,000 Prescriptions. St. Louis Commercial Type Drug Stores.	St. Louis Professional Pharmacies.	Average in Pharmacies throughout the U. S.
102	Aloin[1]	U. S. P. X	1 oz.	$0.18	12	14	12.6
	Capsules.						
183	Aspirin, Phenacetine and Caffeine	.....	100	0.46	4	5	6.8
227	Elastic Copaiba, 10 min.	.....	12	0.23	...	5	1.2
148	Corpus Luteum (5 and 2 grains)	.....	50	3.65	4	9	3.2
125	Digitalis	U. S. P. X	100	0.85	...	18	1.4
177	Ephedrine Sulphate 3/8 gr.	.....	40	0.85	5	5	13.6
229	Iron, Quinine and Strychnine	.....	100	0.60	...	5	0.7
	Concentrations or Resinoids.						
103	Cascarin	.....	1 oz.	0.42	23	3	6.2
192	Podophyllin	U. S. P X	1 oz.	0.89	6	3	6.8

	Elixirs.						
138	Calisaya[1]	N. F. V	1 pt.	0.87	11	4	14.8
217	Five Bromides	N. F. V	1 pt.	0.99	...	6	3.4
119	Gentian	N. F. V	1 pt.	1.08	8	11	4.9
83	Gentian Glycerinated[1]	N. F. V	1 pt.	0.96	34	3	23.5
84	Glycerophosphates Comp.[1]	N. F. V	1 pt.	1.11	23	14	27.6
121	Glycerophosphates Lime and Soda[1]	N. F. V	1 pt.	1.08	5	14	16.8
22	Iron, Quinine and Strychnine[1]	N. F. V	1 pt.	1.05	93	44	61.6
1	Lactated Pepsin	.....	1 gal.	2.25	290	70	324.3
39	Pepsin (Digestive) Compound[1]	N. F. V	1 pt.	0.60	56	41	
28	Pepsin and Rennin Compound (Essence of Pepsin)[1]	N. F. V	1 pt.	0.85	63	56	51.2
75	Phenobarbital[1]	.....	1 pt.	1.08	20	23	138.0
150	Potassium Bromide	N. F. V	1 pt.	0.99	13	..	10.7
162	Salicylic Acid Compound	.....	1 pt.	0.96	6	6	0.5
152	Saw Palmetto and Santal	N. F. V	1 pt.	0.99	8	5	3.8
25	Simple[1]	U. S. P. X	1 pt.	0.60	107	28	63.7
36	Sodium Bromide	N. F. V	1 pt.	0.90	54	47	30.7
93	Sodium Salicylate	N. F. V	1 pt.	0.97	6	27	4.8
163	Sodium Sulphocyanate	N. F. V	1 pt.	0.81	4	8	2.7
48	Terpin Hydrate[1]	N. F. V	1 pt.	2.19	53	18	50.0
23	Terpin Hydrate and Codeine[1,2]	N. F. V	1 pt.	2.19	91	45	45.0
198	Terpin Hydrate and Creosote	N. F. V	1 pt.	1.05	8	...	0.8
181	Terpin Hydrate and Heroin	N. F. IV	1 pt.	2.20	3	7	19.5
165	Three Bromides[1]	N. F. V	1 pt.	0.93	12	...	31.7
	Extracts (Powdered and Solid).						
154	Aconite	U. S. P. IX	1 oz.	0.60	8	4	4.1
27	Belladonna[1]	U. S. P. X	1 oz.	0.54	94	28	79.1
20	Cascara Sagrada[1]	U. S. P. X	1 oz.	0.45	32	128	40.0
226	Cinchona	N. F. IV	1 oz.	0.90	5	...	0.5
203	Colocynth Compound	U. S. P. X	1 oz.	0.48	7	...	7.9
146	Ergot[1]	U. S. P. IX	1 oz.	1.20	12	2	4.7
82	Ergotine (Bonjean)	N. F. V	1 oz.	1.79	22	15	12.0
106	Gentian	N. F. V	1 oz.	0.36	10	15	9.9
72	Hyoscyamus[1]	U. S. P. X	1 oz.	0.60	19	25	35.3
34	Nux Vomica[1]	U. S. P. X	1 oz.	0.54	53	50	35.7
141	Opium[3]	N. F. V	1/2 oz.	3.12	6	9	12.0
223	Valerian	.....	1 oz.	0.72	...	6	4.3
	Fluidextracts.						
215	Buchu	U. S. P. X	1/4 oz.	0.87	6	...	2.1
54	Cascara Sagrada[1]	U. S. P. X	1 pt.	1.34	28	30	37.5
19	Cascara Sagrada Aromatic[1]	U. S. P. X	1 pt.	1.44	112	49	70.5
204	Condurango	N. F. V	4 oz.	0.67	...	7	2.5
71	Ergot[1]	U. S. P. X	4 oz.	0.87	33	11	37.4
170	Hydrastis	U. S. P. X	1 oz.	0.72	6	5	6.8

149	Hyoscyamus	U. S. P. X	4 oz.	0.72	13	...	3.8
219	Kola	N. F. V	4 oz.	0.63	...	6	1.1
88	Licorice	U. S. P. X	4 oz.	0.42	12	22	11.2
222	Triticum	N. F. V	4 oz.	0.45	6	...	2.3
95	Valerian	N. F. V	4 oz.	0.78	31	...	3.1
	Glandular Substances, Dessicated.						
68	Corpus Luteum[1]	.....	1 oz.	3.19	12	34	11.1
33	Ovarian Substance Dessicated[1]	.....	1 oz.	2.13	26	80	43.2
191	Parathyroid	.....	1/8 oz.	2.55	1	8	2.7
58	Pituitary Substance[1]	.....	1 oz.	3.40	9	48	32.2
136	Suprarenal Gland	U. S. P. IX	1 oz.	1.70	3	13	4.8
4	Thyroid[1]	U. S. P. X	1 oz.	0.85	66	209	88.6
126	Infusion Digitalis	U. S. P. X	1 pt.	0.50	8	9	8.8
43	Inhalant, Ephedrine[1]	.....	1 oz.	0.80	39	47	65.2
60	Inhalant, Ephedrine Compound[1]	.....	1 oz.	0.80	56	..	15.6
	Liniment.						
216	Camphor	U. S. P. X	1 pt.	1.05	6	...	4.4
111	Chloroform[1]	U. S. P. X	1 pt.	0.84	23	1	12.5
135	Soft Soap	U. S. P. X	1 pt.	0.84	13	3	3 4
139	Liver Extract	.....	1 box (24 vials)	4.55	6	9	6.0
	Lotion.						
76	Calamine[1]	N. F. V	2 pt.	0.40	24	17	43.9
107	Resorcin Compound	.....	1 pt.	0.40	...	25	1.2
50	Mass Iron Carbonate[1]	U. S. P. X	4 oz.	0.22	14	48	22.6
30	Mass Iron Carbonate Saccharated[1]	U. S. P. X	4 oz.	0.22	104	9	21.2
129	Milk of Bismuth[1]	N. F. V	1 pt.	0.85	12	5	24.8
2	Milk of Magnesia[1]	U. S. P. X	1 pt.	0.42	208	109	76.0
	Mixtures.						
105	Chalk[1]	U. S. P. X	1 pt.	0.50	21	4	19.4
14	Licorice (Glycyrrhiza) Compound[1]	U. S. P. X	1 pt.	0.64	124	52	89.4
89	Pectoral	N. F. V	1 pt.	0.85	31	3	16.7
117	Rhubarb and Soda[1]	N. F. V	1 pt.	0.67	5	15	52.3
113	Mucilage of Acacia[1]	U. S. P. X	1 pt.	0.25	19	5	10.8
11	Oil of Rose Compound[3,4]	.....	4 oz.	1.00	11	188	20.8
230	Oil of Rose Compound with Codeine[3,4]	.....	1 oz.	0.67	5	...	0.4
	Ointments and Ointment Bases.						
200	Acid Boracic	U. S. P. X	1 lb.	0.90	...	7	12.0
214	Balm Analgesic	.....	(tube) 1 oz.	0.21	5	1	7.5
131	Belladonna	U. S. P. X	1 lb.	1.49	5	11	9.6
224	Benzoinated Lard	U. S. P. X	1 lb.	0.56	5	...	10.1
159	Diachylon (Lead Oleate)	U. S. P. X	1 lb.	1.62	12	...	3.7
145	Ephedrine Jelly	.....	1/2 oz. (1 tube)	0.36	5	9	5.9
40	Lanolin, Hydrous[1]	U. S. P. X	1 lb.	0.34	55	42	81.5
35	Lassars Zinc Paste	N. F. V	1 lb.	0.85	3	98	28.0
78	Mercury Ammoniated[1]	U. S. P. X	1 lb.	1.44	23	18	56.4

57	Mercury Yellow Oxide[1]	U. S. P. X	4 tubes	0.44	8	49	34.8
37	Petrolatum[1]	U. S. P. X	1 lb.	0.25	42	58	92.0
92	Petrolatum, White[1]	U. S. P. X	1 lb.	0.50	23	10	71.2
26	Pine Tar	U. S. P. X	1 lb.	1.08	10	116	13.0
122	Resorcinol Compound	N. F. V	1 lb.	2.40	2	17	4.4
46	Rose Water[1]	U. S. P. X	1 lb.	0.94	39	34	57.9
233	Sulphur	U. S. P. X	1 lb.	1.20	5	...	10.0
108	Sulphur Compound	N. F. V	1 lb.	1.20	...	25	0.8
199	Whitfield	.....	1 lb.	1.50	1	7	3.0
79	Zinc Oxide[1]	U. S. P. X	1 lb.	0.72	26	15	28.4
	Pills.						
65	Blaud	U. S. P. X	100	0.30	32	20	12.2
175	Blaud Compound	.....	100	0.33	8	2	2.2
157	Cathartic Compound	.....	1000	3.30	12	...	2.2
210	Iron, Quinine and Strychnine	.....	100	0.63	7	...	1.0
140	Mercury Protoiodide	.....	100 1/6 gr.	0.33	8	7	2.6
189	Mixed Treatment	.....	100	1.37	1	8	1.2
101	Strychnine Sulphate	.....	100	0.27	6	21	4.0
	Powders.						
110	Antiseptic	N. F. V	4 oz.	0.30	15	9	4.6
62	Ipecac and Opium[1,3]	U. S. P. X	1 oz.	0.36	19	36	36.5
128	Mercury and Chalk	U. S. P. X	4 oz.	0.30	12	5	1.6
98	Pepsin[1]	U. S. P. X	1 oz.	0.43	9	20	..
100	Pepsin Lactated	N. F. III	1 oz.	0.30	13	14	2.8
179	Pepsin Saccharated	N. F. V	1 oz.	0.21	9	1	3.0
212	Soft Soap	U. S. P. X	1 lb.	0.76	6	1	...
	Solutions.						
109	Alkaline Aromatic	N. F. V	1 pt.	0.60	15	9	9.7
61	Ammonium Acetate[1]	U. S. P. X	4 oz.	0.35	46	9	24.2
193	Antiseptic	N. F. V	1 pt.	0.43	7	1	4.1
137	Boric Acid	.....	1 pt.	0.30	7	8	...
155	Boroglyceride (Glycerite of Boroglycerin)	U. S. P. X	1 pt.	1.44	4	8	4.6
87	Calcium Hydroxide (Lime Water)[1]	U. S. P. X	1 gal.	0.70	17	17	40.6
56	Coal Tar (Liquor Carbonis Detergens)[1]	N. F. V	8 oz.	0.83	5	52	27.0
112	Ephedrine Sulphate[1]	.....	1 oz.	0.51	24	...	34.4
207	Ferric (Iron) Chloride	.....	1 pt.	0.60	7	...	0.7
49	Iodine Compound[1]	U. S. P. X	4 oz.	0.40	28	37	21.6
171	Iodine Phenolated (Boulton's Solution)	N. F. V	1 oz.	0.35	7	4	2.9
209	Iron and Ammonium Acetate (Basham's Mixture)[1]	U. S. P. X	1 pt.	1.00	6	1	22.7
127	Iron Peptonized and Manganese[1]	N. F. V	1 pt.	0.85	12	5	17.2
220	Lead Subacetate (Dilute)	N. F. V	1 pt.	0.30	6	...	0.7
42	Normal Salt	U. S. P. X	1 gal.	0.36	37	51	19.5
16	Potassium Arsenite (Fowler's Solution)[1]	U. S. P. X	1 pt.	0.57	122	49	73.7
231	Potassium Citrate	U. S. P. X	1 pt.	0.30	5	...	4.8

142	Sodium Borate Compound (Dobell's)[1]	N. F. V	1 pt.	0.30	6	9	14.9
67	Surgical Solution of Chlorinated Soda (Dakin's Solution)[1]	U. S. P. X	1 qt.	0.36	51	...	0.5
	Spirits.						
124	Aromatic Ammonia	U. S. P. X	1 pt.	1.20	12	6	37.1
169	Camphor	U. S. P. X	1 pt.	1.49	4	7	9.3
77	Chloroform[1]	U. S. P. X	1/2 pt.	0.40	34	7	25.0
41	Nitrous Ether[1]	U. S. P. X	1 pt.	0.80	83	13	41 3
74	Nitroglycerine	U. S. P. X	1 oz.	0.30	17	27	8.5
173	Peppermint[1]	U. S. P. X	1 pt.	1.99	7	4	16.0
	Syrups.						
17	Simple[1]	U. S. P. X	1 gal.	0.72	85	84	89.5
52	Acacia	U. S. P. IX	1 pt.	0.25	45	15	15.0
143	Ammonium Hypophosphite	N. F. V	1 pt.	0.72	12	2	8.2
98	Bromides	N. F. V	1 pt.	1.14	29	...	5.1
13	Cocillana Compound[1]	.....	1 pt.	0.85	162	14	94.0
115	Cocoa	N. F. V	1 pt.	0.30	21	...	6.4
133	Euphorbia Compound	.....	1 pt.	0.90	16	...	5.8
18	Ginger	U. S. P. X	1 pt.	0.48	160	6	19.2
134	Hydriodic Acid[1]	U. S. P. X	1 pt.	0.72	10	6	36.3
94	Hypophosphites	N. F. V	1 pt.	0.78	31	...	7.3
10	Hypophosphites Compound[1]	N. F. V	1 pt.	0.81	188	13	30.8
47	Ipecac[1]	U. S. P. X	1 pt.	1.05	58	14	48.4
194	Ipecac and Opium[3]	N. F. V	1 pt.	1.44	7	1	8.5
86	Iron Iodide[1]	U. S. P. X	1 pt.	1.20	12	24	28.0
55	Lemon (Citric Acid)[1]	U. S. P. X	1 pt.	0.35	49	9	27.2
44	Licorice	N. F. V	1 pt.	0.60	71	9	14.8
32	Orange[1]	U. S. P. X	1 pt.	0.35	104	2	54.5
81	Raspberry[1]	N. F. V	1 pt.	0.35	37	2	25.3
180	Rhubarb Aromatic	U. S. P. X	1 pt.	0.78	6	4	5.3
3	Sarsaparilla Compound[1]	U. S. P. X	1 pt.	1.14	257	36	64.6
153	Senega	U. S. P. X	1 pt.	0.90	7	6	5.9
71	Squill[1]	U. S. P. X	1 pt.	0.75	35	10	32.7
8	Tolu[1]	U. S. P. X	1 pt.	0.72	214	30	109.7
221	Trifolium Compound	N. F. V	1 pt.	1.05	6	...	5.3
24	White Pine Compound with Tar	.....	1 pt.	0.72	57	79	...
6	Wild Cherry[1]	U. S. P. X	1 pt.	0.72	172	82	121.8
63	Yerba Santa	N. F. V	1 pt.	0.96	51	4	11.2
	Tablets.						
130	Amidopyrine[1]	.....	100	0 87	4	12	24 3
213	Atropine Sulphate	.....	100	0.21	1	5	8.7
184	Barbital	.....	110 (1 tube 10, 1 bottle 100)	0.95	3	6	11.2
167	Blaud Compound	.....	100	0.28	2	9	7.9
168	Blaud	.....	100	0.24	2	9	3.8
225	Calcium Carbonate	.....	100	0.27	...	5	3.7
132	Calcium Lactate	.....	100	0.30	4	12	7.7
186	Calomel	N. F. V	500 (5 assorted sizes)	1.05	7	2	7.2

91	Cinchophen[1]	.....	200 (100—5 grs., 100—7½ grs.)	0.96	19	14	29.6
187	Codeine Phosphate (Hypo)[3]	.....	200	1.32	1	8	6.1
59	Codeine Sulphate[1,3]	.....	100	2.55	19	37	92.2
188	Corpus Luteum	.....	50—5 grs.	2.17	2	7	13.6
205	Coryza	.....	100	0.35	1	6	4.3
206	Digitalin	.....	100—1/60 gr.	0.39	...	7	1.3
160	Digitalis	.....	100	0.32	...	12	7.3
114	Dobell	.....	100	0.47	1	21	2.8
178	Mercury Bichloride (Corrosive)	U. S. P. IX	100	0.35	4	6	4.6
116	Mercury and Chalk	.....	100—1 gr.	0.21	9	11	2.7
211	Mercury Protoiodide	.....	100—1/4 gr.	0.21	...	7	4.2
51	Methenamine[1]	.....	200 (100—5 grs.,100—7½ grs.)	0.69	51	10	25.3
73	Methenamine and Sodium Acid Phosphate	.....	100	0.42	21	23	14.7
195	Mixed Treatment	.....	100	0.21	7	1	1.4
29	Morphine Sulphate[1,3]	.....	4 tubes assorted	1.56	25	91	115.5
196	Morphine Sulphate (Hypo Units)[3]	.....	6—1/4 grs. 1 package)	1.49	...	8	
190	Neo Cinchophen	.....	20—5 grs.	0.45	2	7	6.5
172	Ovarian Substance[1]	.....	100—5 grs.	2.55	2	9	20.0
53	Phenobarbital[1]	.....	200 (100—½ gr., 100—1½ grs.)	1.24	16	44	105.5
232	Pituitary Whole Gland	.....	100—1 gr.	1.67	...	5	1.3
151	Rhinitis (Full Strength)	.....	100	0.36	4	9	4.8
118	Sodium Salicylate	.....	100	0.27	5	15	5.9
164	Strychnine Sulphate[1]	.....	600 assorted	1.26	2	10	12.7
38	Thyroid (1/4, ½, 1, 2 grs.) 100 each[1]	.....	400	1.75	25	75	54.0
	Tincture.						
80	Aconite[1]	U. S. P. X	4 oz.	0.54	26	14	33.8
15	Belladonna[1]	U. S. P. X	1 pt.	1 44	87	85	177 5
185	Benzoin	U. S. P. X	4 oz.	0.66	9	...	12.0
85	Benzoin Compound[1]	U. S. P. X	4 oz.	0.60	20	16	29.3
156	Calendula	N. F. V	4 oz.	0.95	12	...	3.0
201	Capsicum	U. S. P. X	4 oz.	0.66	5	2	10.4
176	Cardamom	U. S. P. X	4 oz.	0.45	10	2	3.8
99	Cardamom Compound[1]	U. S. P. X	1 pt.	1.56	12	15	43.9
157	Cinchona	U. S. P. X	4 oz.	0.63	2	10	3.1
144	Cudbear[1]	N. F. V	4 oz.	0.54	11	3	17.8
7	Digitalis[1]	U. S. P. X	1 pt.	0.80	177	72	156.1
208	Gelsemium	N. F. V	4 oz.	0.54	5	2	5.2
228	Gentian[1]	.....	4 oz.	0.42	5	...	3.4
120	Gentian Compound[1]	U. S. P. X	4 oz.	0.42	11	8	70.8
70	Hyoscyamus[1]	U. S. P. X	4 oz.	0.48	20	25	95.5

96	Iodine[1]	U. S. P. X	2 pts.	2.35	21	9	20.1
64	Iron Chloride[1]	U. S. P. X	1 pt.	1.44	30	23	27.9
161	Lobelia[1]	U. S. P. X	4 oz.	0.51	7	5	11.7
5	Nux Vomica[1]	U. S. P. X	1 pt.	1.32	150	120	234.7
31	Opium[1,3]	U. S. P. X	4 oz.	1 74	67	43	41.2
21	Opium Camphorated[1,2] (Paregoric)	U. S. P. X	1 pt.	1.32	135	22	128.2
234	Strophanthus	U. S. P. X	4 oz.	0.87	5	...	6.6
123	Viosterol[1] (asst. mfgrs. 5-cc. vials)	.....	1/4 oz.	1.50	4	15	31.0
	Water.						
174	Ammonia	U. S. P. X	1 lb.	0.27	10	...	1.7
	Anise	U. S. P. X	1 pt.	0.36	15	10	7.2
9	Camphor[1]	U. S. P. X	1 pt.	0.36	50	190	71.4
66	Chloroform[1]	U. S. P. X	1 pt.	0.50	17	35	16.7
90	Cinnamon[1]	U. S. P. X	1 pt.	0.36	22	11	20.4
12	Peppermint[1]	U. S. P. X	1 pt.	0.48	169	20	130.7
45	Rose[1]	U. S. P. X	1 pt.	0.72	45	31	53.7
197	Spearmint	U. S. P. X	1 pt.	0.36	6	2	2.4
147	Witch Hazel	N. F. V	1 gal.	1.26	4	10	12.3
	Wine.						
182	Antimony	U. S. P. VIII	4 oz.	0.51	7	2	3.8
202	Colchicum	N. F. IV	4 oz.	0.57	7	...	3.8
158	Colchicum Seed[1]	N. F. IV	4 oz.	0.55	5	7	13.4
218	Ipecac	U. S. P. VIII	4 oz.	0.72	6	...	11.5
	Total			$206.15	6713	4644	

NOTE: These 234 galenicals and pharmaceuticals have an average cost of $0.88.

[1] These items appeared as leading ingredients in the prescriptions studied in each of the four states represented in the "U. S. P.-N. F. Ingredient Survey." See text following Table XLII. [2] An exempt narcotic. Official order blank not required, however record of sales must be kept. [3] Items so marked come within the scope of the Federal Narcotic Law. An official order blank and a monthly report is absolutely necessary. [4] A private formula.

TABLE XL.—LIST OF 33 BOTANICALS, OILS, RELATED PRODUCTS AND OTHER MISCELLANEOUS INGREDIENTS OCCURRING FIVE TIMES AND OVER, PER 10,000 PRESCRIPTIONS.

Group Rank.		Source of Authority.	Unit.	Unit Price.	Number of Occurrences per 10,000 Prescriptions. St. Louis Commercial Type Drug Stores.	St. Louis Professional Pharmacies.	Average in Pharmacies throughout the U. S.
	Botanical Drugs Crude and Powdered.						
2	Acacia Granulated[1]	U. S. P. X	1 lb.	$0.49	79	38	28.0
27	Aloes Powdered	U. S. P. X	1 oz.	0 06	7	1	2.0
8	Asafetida	U. S. P. X	1 oz	0.20	37	1	5.7
16	Balsam Peru	U. S. P. X	2 oz.	0.50	13	8	...
10	Capsicum Powdered	U. S. P. X	1 oz.	0.10	25	7	8.2
18	Digitalis Powdered[1]	U. S. P. X	1 oz.	0.20	..	18	26.7
12	Ipecac Powdered	U. S. P. X	1 oz.	0.20	15	15	15.9
38	Jalap Powdered	U. S. P. X	1 oz.	0.06	5	..	1.6
28	Licorice Powdered	U. S. P. X	4 oz.	0.15	8	..	2.9
9	Opium Powdered[1,3]	U. S. P. X	1/2 oz.	0.73	20	16	21.6
7	Rhubarb Powdered[1]	U. S. P. X	1 oz.	0.42	24	15	24.6
33	Psyllium Seed	.....	5 lbs.	1.50	..	5	1.6

	Oils.						
	Fixed or Expressed.						
5	Castor[1]	U. S. P. X	1 gal.	1.30	12	41	24.9
11	Cocoa Butter[1]	U. S. P. X	1 lb.	0.35	13	18	32.7
14	Cod Liver[1]	U. S. P. X	1 pt.	0.50	5	21	9.7
29	Linseed	U. S. P. X	2 pts.	0.30	5	2	0.9
15	Olive[1]	U. S. P. X	2 pts.	1.18	3	20	29.8
	Volatile.						
19	Bergamot	N. F. V	1 oz.	0.28	9	9	5.0
21	Cinnamon	U. S. P. X	1/2 oz.	0.80	13	3	8.9
13	Eucalyptol[1]	U. S. P. X	1/4 lb.	0.34	18	9	9.9
6	Eucalyptus[1]	U. S. P. X	1 lb.	0.45	15	24	24.0
22	Fennel[1]	U. S. P. X	1 lb.	0.30	..	10	1.7
3	Gaultheria (Methyl Salicylate)[1]	U. S. P. X	1 lb.	0.72	62	19	43.8
23	Lavender[1]	U. S. P. X	1 oz.	0.40	9	1	4.7
30	Lemon	U. S. P. X	1 oz.	0.60	6	..	1.8
4	Peppermint[1]	U. S. P. X	2 oz.	0.75	52	11	42.1
24	Pine Needles[1]	U. S. P. X	1 oz.	0.22	5	5	6.8
17	Rose	U. S. P. VIII	10 M	1.00	12	7	7.7
25	Rose Germanium	.. ..	1 oz.	0.75	6	4	1.1
20	Santal—East Indian	U. S. P. X	1 oz.	0.85	12	5	8.6
	Miscellaneous.						
31	Agar	U. S. P. X	1/4 lb.	0.68	1	5	1.0
26	Coal Tar, Crude (Pix Carbonis)	N. F. V	1 lb.	0.25	1	9	1.3
1	Liquid Petrolatum[1]	U. S. P. X	1 pt.	0.50	57	87	82.2
	Total			$17.13	549	434	

NOTE: These 33 leading items have an average cost of $0.52.

[1] These items appeared as leading ingredients in the prescriptions studied in each of the four states represented in the "U. S. P.-N. F. Ingredient Survey." See text following Table XLII.

[2] This item comes within the scope of the Federal Narcotic Law. An official order blank and a monthly report is absolutely necessary.

ANALYSIS OF LEADING MANUFACTURERS' SPECIALTIES, CLASSIFIED INTO GROUPS ACCORDING TO THEIR THERAPEUTIC USE AND ACTION.

The policy of the Department of Commerce of not publishing brand names precludes the inclusion of a similar list of the 253 manufacturers' specialties found to be leading ingredients. However, in the following table these specialties have been classified into 26 groups according to therapeutic use and action. The number of different specialty items in each group is shown, as is the total number of times that the specialties in each group were prescribed. The forms of the specialties in each group are shown in parentheses after the description of the therapeutic use and action. In a few cases certain specialty items had dual and even triple uses and were placed in each of the groups concerned. For this reason, uses are shown for 258 rather than 253 items, with a corresponding increase in the number of times that the leading items were used.

It is hoped that this summary of the leading specialties will be of value to manufacturers, pharmacists, physicians and others who may be interested. Any manufacturer is at liberty to communicate with the Bureau of Foreign and Domestic Commerce in Washington, D. C., to obtain information concerning the appearance of his products in the 20,000 prescriptions studied in the Survey. If any clerical work is required to obtain the information desired, the manufacturer may defray that cost and the information will be supplied if the request is a reasonable one.

In the first prescription department report from the Survey, a similar summary was made of leading manufacturers' specialties occurring in 15,063 prescriptions filled in 13 commercial type drug stores. All but one of the leading specialties in that first list were found among the leading specialties in the present study of 20,000 prescriptions. However, in the first report only those ingredients which occurred 25 times or more were considered leading ingredients, while in the present report all ingredients occurring at least five times are classed as leading ingredients.

Of the 253 leading specialties, 52 (20.6 per cent) appeared at least 10 times per 10,000 prescriptions in *each* of the four states represented in the "U. S. P.-N. F. Ingredient Survey," thus showing a popular demand from coast to coast.

TABLE XLI.—DISTRIBUTION OF 253 LEADING SPECIALTIES INTO GROUPS ACCORDING TO THERAPEUTIC ACTION AND USE.

Group.	Therapeutic Action and Use.	No. of Different Specialty Items.	Total No. of Times Prescribed.
A.	Expectorants, sedative expectorants, vehicles for cough mixtures, and other preparations for various diseases of the respiratory tract. (Ampuls 1; liquids 20; powders or crystals 2; tablets 2.)	25	819
B.	Digestants and gastric correctives; enzymic liquids, also colitis disturbance powder and tablets. (Liquids 7; powders or crystals 7; tablets 3; capsules 1.)	18	997
C.	Hypnotics and sedatives. (Liquids 8; powders or crystals 7; tablets 8; capsules 2.)	25	1549
D.	Analgesics, antipyretics and antirheumatics. (Liquids 1; powders or crystals 7; tablets 4; capsules 1.)	13	576
E.	General tonics, stimulating diet and auxiliary foods, malt and Blaud preparations, cod liver oil concentrates, vitamin fortified products, preparations prescribed in the treatment of secondary anemia, general "run-down" conditions malnutrition and convalescence, lack of appetite and vigor. (Liquids 27; powders or crystals 2; tablets 4.)	33	721
F.	Laxatives in various forms, including fluidextract cascara sagrada, aromatic type, effervescent salts, liquid petrolatum and emulsion of agar agar and petrolatum. (Effervescent salts 1; liquids 10; tablets 4; pills, granules, etc. 2; ointments and jellies 1.)	18	723
G.	Antiseptics, germicides, prophylactis of the silver protein type in colloidal form, also other silver solutions and products used in conjunctivitis, urethral irrigations, gynecologic practice, infections of the genito-urinary tract and of the eye, ear, nose and throat. (Liquids 1; powders or crystals 5.)	6	450
H.	Glandular or organotherapeutic products. (Ampuls 1; powders or crystals 1; tablets 10.)	12	132
I.	Staphylococcal infections. (Tablets 1.)	1	16
J.	Emollients, antiphlogistics and ointments. (Liquids 1; ointments and jellies 15.)	16	751
K.	Diuretics, genito-urinary antiseptics and preparations for both internal and external use for venereal diseases; also preparations indicated in cystitis, pyelitis and various gynecological diseases; and for application to wounds, etc. (Liquids 3; powders or crystals 3; tablets 11; capsules 1.)	18	347

L.	Gynecological antispasmodics and utero-ovarian and menstrual sedatives and anodynes; derangements of the female functional organs. (Liquids 5.)	5	58
M.	Hemostatics, astringents, vasomotor stimulants, vasoconstrictors. (Liquids 1.)	1	48
N.	Quinine suspended in palatable vehicles. (Liquids 2.)	2	74
O.	Suppositories. (Suppositories 1.)	1	17
P.	Inhalants. (Liquids 6.)	6	96
Q.	Cardiac tonics and heart stimulants, and preparations for renal and dropsical conditions, angina pectoris and asthma. (Liquids 4; powders 2; tablets 6.)	12	420
R.	Pneumococcicides. (Powders or crystals 1.)	1	44
S.	Rheumatic effervescent salt of sodium salicylate and other drugs and preparations to relieve rheumatism. (Effervescent salts 3; liquids 1; powders or crystals 4; tablets 2; capsules 3.)	13	248
T.	Oral antiseptics and mouth washes. (Liquids 2.)	2	18
U.	Antiseptic solutions and germicides (organic mercury compounds) and other antiseptics including dusting powder, etc. (Liquids 4; powders or crystals 4; tablets 1; capsules 1.)	10	332
V.	Local anesthetics. (Powders or crystals 4.)	4	143
W.	Alimentary canal and intestinal astringents and sedatives and preparations for diarrhea, cholera morbus, cholera infantum, dysentery, nausea, seasickness, etc. (Liquids 4; powders or crystals 3.)	7	106
X.	Organic iodine preparations—plain and in combinations—indicated in the treatment of arthritis, neuritis, goitre, syphilis, septic infections and similar conditions, also for inflammation in bone, joint and muscle and other iodine therapy preparations. (Liquids 2; powders or crystals 1; tablets 3; capsules 1.)	7	75
Y.	Contraceptives. (Ointments and Jellies 1.)	1	10
Z.	Roentgenographic visualizations. (Tablets 1.)	1	16

APPEARANCE OF NARCOTICS AMONG THE LEADING INGREDIENTS.

It would probably be considered a glaring omission in a report of this character if no separate reference was made to the extent of use and inventory investment required of narcotics, inasmuch as about 10 per cent of all prescriptions filled are narcotics, according to this Survey. As shown in the first prescription department report from the Survey, 7822 narcotic prescriptions were filled by 13 commercial type drug stores in a year, out of a total of 72,828 prescriptions, exclusive of liquor prescriptions.

Of the 164 leading chemicals listed, 11 are narcotics and would cost approximately $19 for a representative order. Codeine sulphate ranked third of all ingredients used, and third among the chemicals. If codeine alkaloid, sulphate and phosphate were grouped together, codeine and its salts would then rank second of all ingredients, only water having more frequent demand. In addition to the 11 narcotic chemicals, there were 8 narcotics among the leading galenicals, 5 narcotics among the leading specialties, and 1 narcotic in the list of botanicals, oils, etc. The 8 narcotic galenicals would cost $13.58; the 5 narcotic specialties, $6.52; and the single narcotic in the list of botanicals, oils, etc., $0.73. Thus the total cost of narcotics in the four lists would be approximately $40, a small sum and yet sufficient for the opening order. The inventory value of narcotics in one of the most typical of the survey stores, however, was only $24.47, divided as follows: chemicals, $10.18; galenicals, $12.98; specialties, $0.70; and botanicals, $0.61.

The number of narcotics in the galenical list will, no doubt, seem rather small. This is due to the fact that different sizes and strengths of a particular narcotic, such as tablets of codeine

sulphate, are not distinguished as separate items. The galenical list also contains four exempt narcotic preparations which do not require a Harrison Act narcotic form, although a record of their sales must be kept.

METHODS FOR PRACTICAL USE OF THE LISTS OF LEADING INGREDIENTS.

Practical information of the type contained in the lists of leading ingredients should serve a very useful purpose to retail and wholesale pharmacists. Association secretaries, wholesale druggists, professors in colleges of pharmacy and others are frequently questioned concerning the correct cost of a prescription department stock and the proper items to order. The pharmacist should always bear in mind that the prescribing habits of the physicians whose prescriptions he fills govern the movement of the various prescription-department items. He will probably save several hundred dollars if when he opens a drug store, he orders in limited quantities, and only those items which appear on these and other lists of leading ingredients, with the exception of items of an emergency nature which must be kept on hand in anticipation of a rare and urgent call. Then later, as prescriptions are received and the prescribing habits of the contributing physicians determined, he can order carefully to conform with the proved demand. In this way, the pharmacist will go far in his effort to prevent the accumulation of "dead" items on his prescription department shelves. With the exception of emergency items, the ingredients comprising the opening order will be items which are shown to be in fairly frequent demand, and which thus have less chance of becoming "shelf-warmers."

The authors feel that if it were possible to bring this report, particularly this part dealing with prescription ingredients, to the attention of the approximately 1800 pharmacists who open new drug stores each year in the United States, a saving of from $100 to $500 per store could be accomplished. At a conservative estimate, the total saving would be at least $250,000, a figure several times larger than the total cost of the National Drug Store Survey. (The number of new drug stores opened during the last 41 months up to and including May 1933, was 6064, with 1932 exceeding 1931 and 1930. This data covers new stores only and does not include change in ownership of a going business. These figures are believed to be conservative, as other sources furnish a figure 10 to 25 per cent higher, with the statement that this is considerably less than the average for the past five years, due to the depression.)

While approximately 1800 new drug stores have been opened annually during the last few years, it is sad to relate that 1387 failed during 1932, according to figures compiled by R. G. Dun & Co. This figure does not include stores which simply closed their doors voluntarily. Therefore, let those alert pharmacists who do not wish to be numbered among the failures bear in mind that they are living in a day requiring business efficiency and that solvency may depend upon quickness of assets. As often said, goods well-bought are half sold. Concentration of purchases and a studious endeavor to simplify lines and items will simplify buying and allow more time to concentrate on selling. The merchant pharmacist knows the cigars and cigarettes and the flavors of ice cream most in demand and purchases them accordingly. However, often it is the case that an alert buyer in the commercial departments has failed to solve the problem of "dead" stock in his prescription department. One good remedy for this situation is scientific buying, ordering in quantities proportionate to demand through his wholesaler, who performs a real economic function in stabilizing stocks, safeguarding credit, maintaining slow-moving prescription department items, and other services which allow the retailer to operate more economically.

These basic ingredient lists should be of use to professors in colleges of pharmacy in instructing and examining students on the subject of the more commonly used ingredients. The report should enable the student to appreciate the economic angles involved. The student and embryo drug store proprietor should compare the lists of leading ingredients with the actual inventory analysis of Store 6-B (Table XXXIV), an excellently managed, fairly modern drug store, and note the large number of items, 35.4 per cent of the 1451 items stocked, which had no movement or purchase during the Survey year.

Until the pharmacist, particularly the proprietor of the usual commercial type drug store, has ascertained the amount of prescription business which he may reasonably expect to do, he should beware of the "deal." Very often even at the start, he is tempted to buy from 5 to 25 pounds of this or that chemical, or an assortment of galenicals (elixirs, tinctures, syrups, etc.)

in order to obtain some free goods or an extra discount. It is much better to pay a little more for these items, buying them in small quantities from the wholesaler, and to invest the difference in merchandise of assured movement, in this way realizing actual rather than paper profits. Unsold chemicals and pharmaceuticals cannot be used to discount bills. Furthermore, buying them in small quantities until demand is proved assures a "clean" prescription department inventory. If the pharmacist wishes to convince himself of the soundness of this advice, let him examine carefully the list of leading galenicals. Out of 234 galenicals which occurred five times or more in 10,000 prescriptions filled by six commercial type drug stores, only 35 occurred as many as 50 times each. A number of these 35 items, such as tincture of belladonna, digitalis, nux vomica and Fowler's solution, are seldom prescribed other than in comparatively small quantities. Also, other of these items, such as camphor and peppermint waters, simple elixir, simple syrup, syrup of sarsaparilla compound and syrup of wild cherry, are usually manufactured in the store as needed. In addition to the monetary considerations, there is the important question of deterioration and potency to be considered in connection with, to mention a few, tincture of digitalis, fluidextract of ergot, pancreatin and other unstable glandular and organo-therapeutic products.

Of course, there are some galenicals, such as elixir of iron, quinine and strychnine, elixir of digestive compound, fluidextract of cascara sagrada aromatic, spirits of nitrous ether and milk of magnesia, upon which the pharmacist will probably begin to experience a profitable over-the-counter demand, after the store has been established a short time. Even with these additional sales possibilities, the pharmacist should wait for a proved demand in a quantity large enough to warrant their purchase in large quantities, and should carefully consider for each item its stability and the possibility of manufacturing it more economically in his own establishment.

In addition to the practical and academic uses of the lists of leading ingredients, just outlined, it is expected that as in the instance of the shorter list contained in the first report, the present lists will prove of value to dealers in botanical drugs, essential oils and other raw materials used in pharmacy and the drug trade, and to manufacturers of chemicals, pharmaceuticals and trade-named specialties. It has been suggested that manufacturers of pharmaceuticals could put the list to practical use as did the chemical manufacturers in the case of the list published in the first report. Certain chemical manufacturers used that list in making up and advertising special deals containing assortments of only those ingredients shown to be in fairly frequent demand. Manufacturers of proprietaries will no doubt be interested particularly in the analysis of the 253 leading manufacturers' specialty items.

Manufacturers of drug fixtures could put the list to actual use in entertaining the design and manufacture of fixtures to meet actual requirements, rather than requiring the pharmacist to follow the present practice of adjusting prescription stocks to fit the shelves of prescription fixture units which have not undergone any marked change during the past 20 or 30 years.

Federal Government agencies, such as the Bureau of Food and Drug Administration of the Department of Agriculture, the United States Public Health Service, and the Surgeon General's Offices of the Army and Navy, might find the lists of leading ingredients and other material in the report to be of practical value to them.

COMPARISON WITH OTHER LISTS OF LEADING INGREDIENTS—FACTS FROM THE "U. S. P.-N. F. PRESCRIPTION INGREDIENT STUDY."

As announced in the first report on the prescription phase of the National Drug Store Survey, the list of ingredients occurring in the 15,063 prescriptions studied in connection with that report, and the list obtained from the 20,000 prescriptions studied in connection with this present report were placed at the disposal of Dr. E. N. Gathercoal, Chairman, National Formulary Revision Committee, to be used as part of the material forming the basis of "The Prescription Ingredient Survey," also known as the "U. S. P.-N. F. Prescription Survey." This survey was conducted by Dr. Gathercoal under the auspices of the boards of trustees of the United States Pharmacopœia, the National Formulary and the AMERICAN PHARMACEUTICAL ASSOCIATION. The Survey has been based upon prescriptions carefully selected from professional and commercial type pharmacies located in New York, California and Maryland, as well as the approximately 35,000 prescriptions from Missouri mentioned above.

The primary purpose of the U. S. P.-N. F. Prescription Survey is to furnish information

to the U. S. P. and N. F. Revision Committees concerning the extent of use of various medicines prescribed by physicians. Thus its purpose differs somewhat from the primary purpose of the National Drug Store Survey, which is attempting to throw light on the economic loss due to the excessive cost of handling innumerable slow-moving prescription items, and to present certain facts to aid in prescription department stock simplification in an endeavor to increase efficiency of operation and net profits. Nevertheless, some of the facts from the Missouri section of the U. S P.-N. F. Prescription Survey contain both commercial and scientific interest and are herewith briefly summarized. Incidentally, the number of prescriptions contained in this summary slightly exceed the number used in the two reports from the National Drug Store Survey. Also a few inconsistencies may appear due to the fact that the committee of the U. S. P.-N. F. Prescription Survey definitely decided to follow the plan used in the Charters Report and included trade-marked brand names of definite chemical substances and galenical preparations as an indent under the chemical or pharmacopœial name of the substance, and counted the occurrences under the brand name in those recorded for the chemical.

The following table shows that 342 out of the 1778 different items occurred over 10 times each. Of these, 175 items (51 per cent) were U. S. P. X, 34 items (10 per cent) were N. F. V, and 86 items (25 per cent) were manufacturers' specialties. Thus only 25 per cent of the items of frequent use were specialties, while official and unofficial items (many of the latter being of a semi-official character) accounted for 75 per cent of these fast-moving items.

Official and unofficial items represented 65.30 per cent of the 1778 different items and 83.80 per cent of the total number of occurrences of ingredients. Specialty items accounted for 34.70 per cent of the 1778 items, but only 16.20 per cent of the total number of times the ingredients were used. The important factor in profit possibilities is not the number of different items called for, but the number of times the items are used. The actual use of U. S. P. X items was greater than that of any of the other three types of items. There were 175 U. S. P. X items which occurred over 10 times each, these 175 items being used an average of 85 times each per 10,000 prescriptions. N. F. V was represented with 34 items occurring over 10 times each, with an average occurrence of 40 times each, per 10,000 prescriptions. There were 47 unofficial items occurring over 10 times each, and they were prescribed an average of 31 times each per 10,000 prescriptions. Specialty items in this fast-movement group numbered 86, with an average occurrence of 32 times each, per 10,000 prescriptions. Thus it is seen that specialty items of frequent occurrence were not prescribed anywhere near as frequently as official U. S. P. and N. F. items. On the other hand, as a glance at the table will show, specialties are responsible for more items of infrequent occurrence, calls or sales than U. S. P. and N. F. items combined.

It might be remarked that the Missouri section of the U. S. P.-N. F. Prescription Survey stood particularly high in the percentage of U. S. P. and N. F. items used.

An examination of the super list of ingredients occurring 10 times or more per 10,000 prescriptions in the "Prescription Ingredient Survey," drawn from a total of nearly 122,000 prescriptions (including the 35,000 from the National Drug Store Survey in Missouri), revealed that out of 701 different ingredients occurring 10 times or more each, 170 were chemicals, 276 were galenicals, 227 were specialties and 28 were botanicals, oils, etc. The 122,000 prescriptions were drawn from the four states of California, Maryland, Missouri and New York. Only 256, or 36.5 per cent of the 701 items occurring 10 times or more each, occurred in all four states represented. Of these outstanding 256 items, 88 (34.4 per cent) were chemicals, 103 (40.2 per cent) were galenicals, 52 (20.3 per cent) were specialties and 13 (5.1 per cent) were botanicals, oils, etc. Those of the 256 outstanding items which are published in the preceding lists of leading ingredients are indicated by a foot-note mark (foot-note one). Of course, the lists printed herein only show chemicals, galenicals and botanicals, oils, etc., specialties having been omitted for reasons previously given.

The number of ingredients occurring 10 times or more each in 10,000 prescriptions in the different states were as follows: California, 340; Maryland, 311; Missouri (professional pharmacies), 308; Missouri (commercial type pharmacies), 348; and New York, 366. A composite list of these leading items for the four states contained a total of 701 different items. Some idea of the wide difference between the leading ingredients of one state as compared with those in other states may be gained by reference to the following table. It will be noted that each state group had from 90 to 182 ingredients which did not occur ten times or more in some other states

TABLE XLII.—DATA FROM THE MISSOURI SECTION OF THE PRESCRIPTION INGREDIENT SURVEY.[1]

Type of Ingredient.	Number of Different Ingredients.	Per Cent of Total.	Total Occurrences.	Per Cent of Total.
U. S. P. X Items	439	24.69	54,305	67.31
N. F. V Items	224	12.60	6,025	7.45
Unofficial Items	498	28.01	7,298	9.04
Specialty Items	617	34.70	13,046	16.20
Total	1778	100.00	80,674	100.00

Type of Ingredient.	Occurrences per 10,000 Prescriptions.	Number of Different Ingredients.	Total Occurrences per 10,000 Prescriptions.
U. S. P. X Items	Under 1	107	50.57
	1 to 10	157	564.46
	Over 10	175	14,829.06
	Total	439	15,444.09
N. F. V Items	Under 1	105	50.29
	1 to 10	85	295.09
	Over 10	34	1,713.44
	Total	224	2,058.82
Unofficial Items	Under 1	277	113 80
	1 to 10	174	513.77
	Over 10	47	1,447.60
	Total	498	2,075.17
Specialty Items	Under 1	279	124.04
	1 to 10	252	868.93
	Over 10	86	2,716.56
	Total	617	3,701.53
All Items	Under 1	768	338.70
	1 to 10	668	2,242.25
	Over 10	342	20,361.28
	Total	1778	22,942.23

NOTES: 1. The average number of ingredients per prescription is 2.29.

2. The 439 U. S. P. items are 70.2 per cent of the 621 items monographed in U. S. P. X.

3. The 224 N. F. items are 30 per cent of the 758 items monographed in N. F. V.

[1] Results from tabulation of ingredients in 35,163 prescriptions from professional and commercial type pharmacies.

studied. It is of special interest to note that 90 of the leading ingredients from the Missouri commercial type store did not appear in the Missouri professional pharmacy list, while 117 of the Missouri professional pharmacy ingredients did not appear in the Missouri commercial type store list. The leading ingredients in the Missouri commercial type stores appeared in other state lists more than any other group, while New York led in ingredients which failed to appear in the lists of other states.

TABLE XLIII.—EXTENT TO WHICH THE LEADING INGREDIENTS OF ONE STATE ARE FOUND TO BE LEADING INGREDIENTS IN OTHER STATES.[1]

State.	Number of Leading Ingredients.	Number of Leading Ingredients Not Occurring in—				
		California.	Maryland.	Missouri Commercial.	Missouri Professional.	New York.
California	340	...	99	167	156	108
Maryland	311	147	...	161	149	113
Missouri (Commercial)	348	163	113	...	90	132
Missouri (Professional)	308	182	129	117	...	157
New York	366	152	107	178	171	...

[1] A "leading ingredient" is one which occurred 10 times or more per 10,000 prescriptions in any one state.

WHOLESALE STUDY SHOWS PRESCRIPTION ITEMS YIELD NET PROFIT.

The study covering the wholesale phase of the National Drug Store Survey is about ready for publication by the Bureau of Foreign and Domestic Commerce. Preliminary figures from this wholesale study show that prescription items handled by the service wholesaler yield a net profit in spite of heavy investment and storage charges resulting from the inherent slow turnover of prescription items. This finding is quite interesting in view of the fact that some other departments with comparatively high turnover do not yield sufficient gross margin to cover their operating expense, and thus show a net loss.

ABSTRACTS OF SCIENTIFIC SECTION PAPERS.

"Licorice Fern and Wild Licorice as Substitutes for Licorice," by Louis Fischer and E. V. Lynn.—A study reported by one of the authors three years ago indicated the possibility of using the rhizomes of licorice fern, *Polypodium vulgare* L. *var. occidentale* Hook., in place of the official licorice. In the meantime, attention was called also to the common occurrence of *Glycyrrhiza lepidota* (Nutt.) Pursh. Both plants have now been examined carefully. No glycyrrhizin could be found in the rhizomes of either plant, in spite of previous impressions to the contrary and of the fact that the results of quantitative methods appear to indicate its presence. From the leaves of licorice fern were extracted benzoic acid, sucrose, a phytosterol, an indifferent substance (carbon 80.65 and hydrogen 12.80 per cent) melting at 74° C., and probably salicylic acid, besides the usual starch, proteins, etc. From the rhizomes of wild licorice were identified sucrose and benzoic acid. The characteristic taste of the rhizomes, from licorice fern is due partly to sucrose, which was identified, and partly to a bitter substance in very small quantity. They contain also a glucoside which was given the name, "polydin," but no alkaloids.

By a preliminary extraction with chloroform, galenicals can be made from the rhizomes which are satisfactory substitutes for those made from licorice. The taste is strikingly similar. Experiments in cultivation have indicated that commercial production to economic advantage is very possible.

"The Value of Senecio in Medicine," by Edgar A. Kelly and E. V. Lynn.—In a preliminary examination reported two years ago, the presence of alkaloids in *Senecio aureus* was noted. Since then we have submitted the official material to very careful study and have come to the conclusion that, if alkaloids are contained, the amount cannot be over 0.0007 per cent. No evidence could be obtained for the presence of glucosides and none for any toxicity to rats or rabbits, even with doses up to 170 times that given in the formulary as average. The starch of senecio is practically, if not entirely, inulin, quantitatively about 10 per cent. Numerous experiments on isolated uterine strips and on normal uterine movements *in vivo* demonstrated the absence of any effect on tone, rate or amplitude.

The authors are now, therefore, inevitably forced to the conclusion that senecio presents no useful properties as medicine. The published recommendations are for uterine stimulation, or at least effect on the uterus, and the authors can find no evidence whatsoever for any such action; they suggest that the material be eliminated from our materia medica. As long as certain classes prescribe it, deletion from the Formulary may not be advisable, but it would seem logical to urge abandonment of any administration.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and Branches shall become the property of the Association with the understanding that they are not to be published in any other publication prior to their publication in those of the Association, except with the consent of the Council." —Part of Chapter VI, Article VI of the By-Laws.

ARTICLE III of Chapter VII reads: "The objects and aims of local branches of this Association shall be the same as set forth in ARTICLE I of the Constitution of this body, *and the acts of local branches shall in no way commit or bind this Association, and can only serve as recommendations to it.* And no local branch shall enact any article of Constitution or By-Law to conflict with the Constitution or By-Laws of this Association."

ARTICLE IV of Chapter VII reads: "Each local branch having not less than 50 dues-paid members of the Association, holding not less than six meetings annually with an attendance of not less than 9 members at each meeting, and the proceedings of which shall have been submitted to the JOURNAL for publication, may elect one representative to the House of Delegates."

Reports of the meeting of the Local Branches shall be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten with wide spaces between the lines. Care should be taken to give proper names correctly and manuscript should be signed by the reporter.

BALTIMORE.

The first fall meeting of the Baltimore Branch A. PH. A. was held at the Hotel Emerson on Wednesday, October 4, 1933. The meeting was opened with President Solomon; the secretary gave a report of the business of the Branch since the last meeting and read the resolutions passed by the Parent Association at the Madison meeting. The following were elected to membership: Irving Fried, Morris Harris, Gus Kroopnick, Frank C. Purdum, Thomas G. Wright and Medford C. Wood. The resolutions and reports of the AMERICAN PHARMACEUTICAL ASSOCIATION as read by the secretary were commented on by Mr. Eberle.

President R. L. Swain, of the A. PH. A., the chief speaker of the evening, was introduced by President Solomon. Dr. Swain's topic was "Pharmacy under the National Recovery Act." The purpose and scope of the NRA, and the constitutionality of the act were discussed in a preliminary manner. He then told how the General Code and the Pharmacists' special Code were drawn up. He outlined the many difficulties encountered in obtaining a satisfactory Pharmaceutical Code. Dr. Swain discussed many of the peculiar features of the Drug Code, including the fifty-six-hour week and the $16 minimum wage. He next discussed the price protection features of the code pointing out the necessity of obtaining some system to control prices of retail goods. Many unfair trade practices of drug stores as discussed in Washington were related by Dr. Swain, who pointed out that many other retail dealers are bitter against the Retail Drug Stores, an unfortunate result of trade associations which will lead to many unhappy conditions.

Dr. Swain's talk was discussed by the members present and President Solomon then called upon Mr. Kantner, a delegate to the N. A. R. D. Convention, for a report. Mr. Kantner reported that little hope could be given the supporters of the move to combine the two major associations, this year at least. Mr. Jackson and Mr. Meyers also commented upon the reports.

The meeting was very well attended, about thirty-five members were present. A note of thanks is extended to those who took part in the discussions of the meeting.

C. JELLEFF CARR, *Secretary-Treasurer.*

STUDENT BRANCH, UNIVERSITY OF FLORIDA.

The Student Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION had its first meeting of the year on October 9, 1933. President George R. Jones opened the meeting with a short talk greeting the members and others who were present. The principal speakers of the evening were Drs. P. A. Foote and B. V. Christensen. Dr. Foote talked on "The Meaning of Pharmacy Week," emphasizing its significance. Dr. Christensen spoke on the history of the association and the privileges and benefits derived from it. Another speaker, H. J.

Lynch, graduate student and chairman of the Window Display Committee for "Pharmacy Week," outlined his plans for displays in local drug stores. Motion for adjournment was made and approved.

G. C. SPARKS, *Secretary.*

REMINGTON MEDAL PRESENTATION HONORING EVANDER F. KELLY.

The services of Evander F. Kelly in local, state and national association work are well and favorably known, and also his constant attention to all matters pertaining to the advancement of pharmacy, and alertness regarding its interests; readiness to speak in its behalf and directing the policies and activities of the AMERICAN PHARMACEUTICAL ASSOCIATION. These efforts, his co-operative helpfulness, his influence in education applying to pharmaceutical promotion, his direction in Association affairs, were brought out in the brief addresses at the ceremonial of the Remington Medal award in New York City on October 11th.

Preceding the formalities of the award a dinner was given at Pythian Hall, which was attended by a large number of friends; aside from New York City and vicinity, many attended from Baltimore and nearby cities. The fact that all members of Dr. Kelly's family were present added greatly to the happy event. Congratulatory letters and telegrams came from Great Britain, Cuba, Porto Rico and all parts of the United States. The dinner and ceremonies of the award were under the auspices of the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION. The officers of the New York Branch are: *President*, Ernst A. Bilhuber; *First Vice-President*, Charles W. Ballard; *Secretary*, Rudolph O. Hauck; *Treasurer*, Turner F. Currens; *Remington Medal Committee: Secretary*, Hugo H. Schaefer. *Reception Committee:* Ernest Little, James H. Kidder, William C. Anderson, John L. Dandreau, C. Jelleff Carr, Edmund H. McLaughlin.

E. F. Kelly, Remington Medalist, 1933.

Inscription on Remington Medal.

Joseph P. Remington—Face of Medal.

President Ernst A. Bilhuber welcomed the visitors at the dinner and made the introductory remarks at the ceremonial, in which he happily referred to the pleasure given the members of New York Branch by this occasion. In his introductory, he referred to the qualities of the guest of honor, which had influenced the Committee in the election of the medalist for 1933.

President R. L. Swain, of the AMERICAN PHARMACEUTICAL ASSOCIATION, was introduced and spoke of the recipient as "The Educator." His acquaintance with Dr. Kelly, dating back to college days and the relations with him in educational matters since that time, qualified him to speak with authority on this subject, and he did so feelingly and interestingly. He impressed, with examples and experiences, the ideals of a teacher he delighted in honoring, and the value of his methods in teaching and the influence in educational matters relating to pharmacy. He referred to activities during many years which had promoted and advanced pharmaceutical education.

Dr. Henry A. B. Dunning was next introduced. He had made notes on Association activities of the medalist that covered quite a number of pages and to speak of them would require more time than at his disposal for the subject "Kelly, the Association Man." He referred briefly to his work on the Pharmacopœia and the National Formulary, his part in surveys, on the codes,

in Public Health Service, State and National Associations, his directing influence and secretarial capacities.

The speaker gave more time in impressing the importance of his work on the Headquarters which had now been brought to realization. He gladly gave much credit to the medalist for his own work; the problems in connection therewith he had solved by good judgment, tact and sound reasoning, presented in a convincing way. Difficulties that at times were seemingly unsurmountable had been overcome by him and several who were for a time opposed were persuaded to accept his views and coöperated. The experiences during the years in which problems relating to the site and building were dealt with had not only resulted in success, but those whose support was needed became friends, supporters and co-workers. Reference to the former reports on the Headquarters made by Chairman Dunning will reveal and emphasize other remarks of the speaker and extend beyond the lines of this brief report.

Dr. S. L. Hilton, who spoke of the "medalist as co-worker," in a happy vein, referred to some experiences which exemplified the co-worker, how by his consideration for the work of others he gained their support. His association with Dr. Kelly extended over a period of many years and he never had failed in giving counsel and his advice was always helpful. He referred to his association with him in revision work and in that for the ASSOCIATION. During the past years in the earlier efforts for the Headquarters and during the construction of the building he had been in almost daily contact, and his appreciation of him as a co-worker had grown. Several stories, well told, were illustrative of the quiet manner in which he presented his argument and gave information.

The subject of the next speaker, E. G. Eberle, was "Kelly, the Associate and Friend." He gave from his experience during the years of association the traits and qualities which were impressed on him—thoughtful in his judgment, careful in his counsel, considerate of those he came in contact with. The speaker is deeply appreciative of the friendship made. The writer will not quote at greater length at this time, for the report of the New York Branch will probably give more detail presented in the addresses. The quotations from the medalist's address will also be very brief at this time.

In responding Dr. Kelly spoke of his connection with pharmacy and his association with outstanding pharmacists, and he referred specifically to such leaders as Caspari, Simon, Culbreth, Hynson, Base, Schmidt, Piquett, the Dohmes, Hancock, Elliott, Mansfield, Frames. He conveyed his ideals of pharmacy in speaking of the profession and its service and importance. His survey of pharmacy and its activities, though brief, were comprehensive. He dealt with phases of pharmacy and its standing, its opportunities, and referred to difficulties that need constant watchfulness, so that its service may not be impaired. He spoke of pharmaceutical education and advancement, its professional recognition, the activities which had promoted and strengthened its importance, and of the large part the AMERICAN PHARMACEUTICAL ASSOCIATION had in these activities; the value of the American Institute of Pharmacy for pharmacy and in public health matters.

The medalist expressed his loyalty to pharmacy—he said: "Pharmacy has been a kind and considerate professional mistress to me. It has given me the opportunity to live a full life in a worth-while calling. It has honored me and I have thoroughly enjoyed life."

Past-President Dr. Otto Raubenheimer, of the New York Branch, in well-chosen words, expressive of regard and esteem, presented the Medal, preceding the address of the medalist.

Following the close of the ceremonies the friends in attendance congratulated the recipient and family and gave expression of their pleasure and enjoyment of the occasion.

PHARMACY NIGHT AT UNIVERSITY OF BUFFALO.

More than 1400 guests, most of them not connected with the profession, attended the Fourth Annual Pharmacy Night at the University of Buffalo, School of Pharmacy, October 13th. Each year the University of Buffalo coöperates in presenting to the public information relative to the service of pharmacy. This is part of Pharmacy Week program—members of the staff spoke at high schools, luncheon clubs and on the radio. Articles in newspapers impressed the public with the professional aspects of pharmacy, and exhibits of the school were enhanced by work carried on in the laboratories, displays, demonstrations, etc.

THE EIGHTY-FIRST ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, MADISON, WIS., AUGUST 28–SEPTEMBER 2, 1933

ABSTRACTS OF THE MINUTES OF THE GENERAL SESSIONS.

The sessions of the Eighty-First Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION were held in Hotel Loraine, Madison, Wis. A partial list of members will be found on page 927 of the September JOURNAL and a continuation of the list in this issue, October, of the JOURNAL.

Some of the Committee Reports referred to in the Proceedings have been printed in the Council Minutes, on pages 902 to 919 of the September number; some are included in these minutes or will be printed in later issues of the JOURNAL under "Committee Reports" or under "Addresses."

FIRST GENERAL SESSION.

The First General Session of the Eighty-First Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was called to order by President W. Bruce Philip at 9:00 A.M., Wednesday, August 30, 1933, in Hotel Loraine. President Philip invited the former presidents of the ASSOCIATION and the honorary presidents to seats on the platform in the order of their seniority. Of those present, they are: Eugene G. Eberle, William B. Day, A. R. L. Dohme, S. L. Hilton, Julius A. Koch, H. V. Arny, L. L. Walton, T. J. Bradley, D. F. Jones, H. A. B. Dunning, H. C. Christensen, Walter D. Adams, and former *Honorary President*, Louis Emanuel. The officials of other organizations were invited to seats on the platform and also the officers of the AMERICAN PHARMACEUTICAL ASSOCIATION.

On account of illness, former President C. W. Johnson had to return home before reaching Madison.

The President called for the report of the House of Delegates which was presented by Chairman J. W. Slocum. On motion duly seconded it was approved. (The Minutes of the House of Delegates will not be reprinted in the minutes of the General Sessions as they would duplicate the minutes of the House of Delegates.)

The next order of business was the reading of the President's Address. It is printed in the September number of the JOURNAL, pages 851 to 860. Actions on the President's Address are embodied in the Resolutions on page 879 of the same issue of the JOURNAL. During the reading of the President's Address First Vice-President Rowland Jones presided. The address of the President was referred to the Committee on Resolutions, in accordance with the By-Laws.

Under the head of new business Secretary Kelly submitted a written motion to amend Section A of Article 1 of Chapter V of the By-Laws of the ASSOCIATION to provide representation in the House of Delegates for the National Conference on Pharmaceutical Research. This motion was laid over for action at the next General Session.

Secretary Kelly read communications from the senior member and senior past-president, John Uri Lloyd; life-member, Sir Henry S. Wellcome; chairman of the British Pharmaceutical Conference, Herbert Skinner, of London; Dr. R. B. J. Stanbury, secretary, Canadian Pharmaceutical Association; Dr. Olin West of the American Medical Association; Dr. Wm. A. Pusey; Dr. Eben J. Carey; Rufus C. Dawes, president of A Century of Progress; former President and Mrs. Charles H. LaWall; Mrs. John G. Godding; Mrs. A. R. Bliss, Jr.; President John A. Goode, N. A. R. D.; California Pharmaceutical Association; Oklahoma Board of Pharmacy; West Virginia Pharmaceutical Association; A. G. Whiteside, Deputy Administrator, NRA; Samuel S. Dworkin. Secretary Kelly asked that these messages be entered into the records of the meeting and it was so ordered. They follow:

MESSAGES.

"To one and all I extend cordial greetings with best wishes for a successful meeting from every standpoint. My unavoidable absence is much regretted, especially sorry to miss the past-presidents' dinner. Hoping to be with you next year, I am, sincerely yours.—JOHN URI LLOYD.

"As a Life Member of the AMERICAN PHARMACEUTICAL ASSOCIATION, I very deeply regret that it is impossible for me to attend the Annual Meeting this year, especially having regard to the important connection of our distinguished fellow member, the late Fredrick B. Power, LL.D., Ph.D., with the University of Wisconsin.

"It was Dr. Power, having already gained renown in the field of chemical and pharmaceutical research, who organized the pharmaceutical department of the University at Madison. The high scientific standards and ethics which he established are, I understand, being fully maintained by the present Director.

"Please convey to the President, the Council and Members of the AMERICAN PHARMACEUTICAL ASSOCIATION, my cordial greetings and best wishes for a successful meeting."—Yours sincerely, HENRY S. WELLCOME.

"Success to conference."—SKINNER, London, England.

"Canadian Pharmaceutical Association sends greetings to the AMERICAN PHARMACEUTICAL ASSOCIATION. We recall our delightful conference in Toronto last year and trust as a result of your present deliberations great benefit may accrue to the druggists of the United States."—R. B. J. STANBURY, *Secretary*.

"Regret very much neither Doctor Leech nor I can go to Madison to-morrow because of tremendous press of work."—OLIN WEST.

"Your annual meeting affords occasion to congratulate you on your splendid exhibit at A Century of Progress."—RUFUS C. DAWES, President of A Century of Progress; DR. WILLIAM ALLEN PUSEY, Chairman of Medical Advisory Committee; DR. EBEN J. CAREY, in charge of Medical Section.

"We both send greetings to the AMERICAN PHARMACEUTICAL ASSOCIATION and hope that our great organization will rise to new levels of efficiency under the successive administrations of Presidents Philip and Swain. We regret that we cannot be with you but we hope to join you next year."—CHARLES H. LAWALL and MILLICENT R. LAWALL.

"Hearty greetings to the AMERICAN PHARMACEUTICAL ASSOCIATION in convention assembled. Keen regret I cannot be present. Best wishes for a very successful meeting, loyally."—MRS. JOHN G. GODDING.

"We got as far as Chicago where Doctor Bliss became suddenly ill and consequently much to our disappointment we are forced to return to Memphis. Please convey greeting of Doctor Bliss and his regrets to the AMERICAN PHARMACEUTICAL ASSOCIATION."—MRS. A. R. BLISS, JR.

"The officers of the National Association of Retail Druggists extend greetings and best wishes to your ASSOCIATION and pledge their fullest coöperation to its deliberations for the material and professional betterment of its membership. I sincerely regret my inability to be in attendance. As a last word from Washington, may I say that a conference has been set for next Wednesday at which time I am in hopes progress will be made on our Code. We are encouraged to believe that our proposal on hours and wages will be accepted. Dr. Swain will be with you and give a more complete report. Regards to all."—J. A. GOODE, *President*.

"Extend greetings and best wishes of the California Pharmaceutical for a most successful convention. Trusting to see you all at the N. A. R. D. in September."—EDNA E. GLEASON, *President*.

"Will not be able to attend the convention on account of having the flu. A successful convention and much good may be accomplished is the wish of your friend."—C. M. BREWER, *Secretary*, Board of Pharmacy.

"Greetings from the smallest Pharmaceutical Association to the largest. Adding our invitation to that of the Hotel Greenbrier to choose this as your meeting place next year."—G. B. MERRIAM, *Secretary*.

"I have received your telegram and it will be given immediate consideration personal."—A. D. WHITESIDE, Deputy Administrator.

"Only few days ago at the hearing of the druggists' Code general denial was registered by many that Pharmacy is a profession, what a tragedy. The hope of the true pharmacists is in you to eradicate this mistake of classification. First let us make ourselves pharmacy conscious. Wishing you a most successful convention."—SAMUEL S. DWORKIN.

It was brought to the attention of the ASSOCIATION that former President Dr. C. W. Johnson who had started for this convention had to discontinue his trip on account of serious illness.

President Philip announced that the report of the Committee on Headquarters Building would be made by Chairman H. A. B. Dunning.

Dr. Dunning stated that this was his tenth report. He displayed pictures of the Headquarters site and building, from the ground-breaking up to the present, and also showed drawings of the ground and landscaping. He interspersed his remarks with references to the amounts contributed and further requirements needed. The report follows:

REPORT OF THE COMMITTEES ON THE HEADQUARTERS BUILDING, JULY 31, 1933.

Those to whom was intrusted the responsibility of securing the funds for and erecting the Headquarters Building are very pleased, indeed, to report that the project is now an accomplished fact. The building is practically completed and will soon be ready for the property of the ASSOCIATION to be moved into it. The plans for landscaping and grading have been approved and bids on the work have been invited; it should be completed during October. Part of the furniture has been ordered and all now required will be installed in November. All questions about property have been adjusted and the deeds are now being prepared for signature. (See Council Letter in this issue of the JOURNAL.)

It is planned to have the building occupied and in operation by the first of the coming year and plans can now be definitely made for the dedication exercises.

Although it has necessarily involved sacrifices of time, thought and labor for many and particularly for those who have had to conduct the tedious negotiations and direct the project, it has been a splendid experience and we feel entirely satisfied with the final result, as the first unit in what will, in time, become a great institution of credit to our calling and of real service to the people of America.

No effort to describe the building and its surroundings can do them justice. Photographs can impart but an idea of the beauty of the building or of its wonderful setting. Our architect has conceived a gem of a building, one of unique design and material and eminently suited to its location and purpose. The builders have carried the plans into execution with great skill and fidelity. The landscape architect has provided a setting appropriate as to simplicity with the building itself, and designed to bring out its peculiar beauty. Those who are furnishing the building are doing their part in carrying out a plan of creating here an effect in full keeping with the magnificent surroundings. We owe a great deal to those who have given us such a beautiful and serviceable structure and especially to Mr. John Russell Pope and his associates, who have not only designed the building and supervised its construction but have also coöperated in the landscape plans and furnishing so that there should be harmony in the final result.

We are confident that all those who see the building will understand its purpose. It is intended to express pharmacy and its service; to acquaint the people and government officials with the important work which pharmacy does as a public health profession. It is difficult to estimate the effect which such an institution can exercise on public thought as the years go by; because of its location, it will increase in this influence so long as our Government continues.

It is surrounded by institutions with which ours should develop close contact; the National Academy of Sciences, the National Research Council, the Public Health Service, the National Institute of Health and the great Naval Hospital. Other governmental and semi-governmental institutions and departments with which pharmacy must coöperate are nearby. It is at the junction of the two main arteries of traffic for the thousands and thousands of people who visit this area annually.

The project has already stimulated interest in and support of the work being done to

advance pharmacy and to place it on the proper basis, and has improved the public and official attitude toward our profession.

Very few changes have been found necessary in the contract for erecting the building and to date the total cost is less than the contract cost. It was necessary to use marble and we were fortunate to obtain a selected lot of Imperial Danby Marble at a very reasonable cost. The result is very satisfactory in every respect. The settlement of the area of land to be deeded to the ASSOCIATION under Public Resolution No. 18 required a number of conferences but was finally adjusted satisfactorily. A sufficient area to protect our building has been deeded to the ASSOCIATION and we have been given the use of the park area between our property and Constitution Avenue on the same terms as the National Academy of Sciences in the adjoining square to the east. This arrangement provides a splendid approach to the building and frontage on one of the most important avenues in Washington.

The landscape and planting plans have also required a great deal of time and thought. Mr. A. F. Brinckerhoff, of New York, was chosen to coöperate with Mr. Pope in developing the plans and in supervising the grading and planting. After many changes, the plans were approved and the work will be completed this Fall.

The plans for furnishing the building have not been completed nor approved. The desire is to select a simple style of furniture in thorough keeping with the building and which can be added to from time to time, as required. It will thus be possible to install—at this time—only the furniture required and to purchase additional pieces as found necessary. Mr. Pope is assisting also in selecting the most suitable type of furniture.

This plan will enable us to place in the museum, the library and the offices such exhibits, books and equipment as will make them serviceable, and to add to this slowly and with time to give careful thought to each selection.

The Committee on the Procter Memorial are coöperating with us and the tentative plan is to place the statue of Procter in the entrance hall of the building. If this plan is carried out, the statue will be a splendid addition to the building. The architect suggested the placing of about twenty names of prominent pharmacists, co-temporary with or prior to Procter, in panels on the walls of the hall. This was not done as it is too early to make such decisions. It is believed to be too early to even decide upon the form of acknowledging the assistance of those who contributed to the fund for erecting the building. All such questions should be given extended consideration after the building is occupied.

Three State associations have contributed special funds for designated purposes. The Texas Pharmaceutical Association for furnishing the offices of the Editor, the Maryland Pharmaceutical Association for furnishing the offices of the Secretary and the Kansas Pharmaceutical Association have not as yet decided for what their fund is to be used. Suitable acknowledgment will be made of these splendid contributions and it is hoped that the other state associations will make contributions for special purposes, thus emphasizing the close relations between them and the AMERICAN PHARMACEUTICAL ASSOCIATION and associating the name of each of them with the project.

The next step before us is to bring the scattered activities of the ASSOCIATION and its related organizations together in the building and to coördinate them as far as possible. We must develop a worth-while historical museum and reference library and make them of service to pharmacy. We must secure such endowment as is necessary and an increased membership so that the work of the ASSOCIATION can be extended.

As previously reported, the research laboratories, chemical, physical and biological, will be housed in a separate building which has been provided for and which will be erected as soon as the present building can be occupied and the questions in connection with it settled. The general plans for the laboratory building are already under consideration.

We now have ready for occupancy and use the first unit of an institution which will, we believe, develop rapidly and will become the real headquarters of professional pharmacy in this country. This unit is a credit to the ASSOCIATION and to all those who have coöperated in providing it. It illustrates what it is possible for pharmacy to do and should stimulate all of us to see that our profession is provided with such a home as is appropriate to its purposes and as will enable it to function most effectively for the American people and American pharmacists.

Chairman Walter D. Adams asked those on the Nomination Committee to attend a meeting immediately after the adjournment of the General Session.

President Philip asked the Chairman of the Council, Dr. S. L. Hilton, whether he would like to make some further remarks relative to the Headquarters Building.

Dr. Hilton stated that he had made almost daily visits to the Headquarters site and building. He referred to the many difficulties that Chairman Dunning and Secretary Kelly had met with and overcome. There had been considerable delay on account of legislative matters. The building is resting on a rock of the same strata that the Lincoln Memorial rests on. The building is now ready for occupancy and the grading and landscaping in front of the building will be started shortly. (See also Council Letter in this issue.) He referred to favorable publicity which had appeared in the past and this evidenced that more will be given. He knew that it will be a great relief for Secretary Kelly and Editor Eberle to have a place where they can carry on the work of the ASSOCIATION, without the discomfort of the present office.

Chairman Dunning stated that he did not emphasize or go into detail regarding the men who had aided the working Committee in this undertaking but he would have a serious qualm of conscience if he did not make it clear that much of the responsibility of the burdensome and heart-breaking times that have been borne by the Chairman and his Committee during the past years has been carried on the shoulders of Secretary Kelly.

President Philip called on Secretary Kelly, who said it was needless to assure the members of his interest in this undertaking and the great satisfaction he has in the fact that it is so near completion. While it has taken a great deal of time, he wished to give assurance that it has been a labor of love for all. He referred to a remark Chairman Dunning made some time ago when viewing the building, which he thought illustrated the devotion and thought that has been put into this project by him and that was: "He would probably take more satisfaction from this effort and endeavor than anything else he had done in his life."

Secretary Kelly proceeded by saying that the building typifies or represents to the people that pharmacy is an important vocation in life and has an important work to do; this, President Philip had well expressed in his address. He said a million or more people visit the Lincoln Memorial annually and every one who visits this area is bound to be impressed by a building of the type of the Headquarters. He stated that Dr. Dunning had referred to the consideration of economy in the erection of the building as well as of the up-keep. The building has no elevator, the heat is automatic and requires no attention. In other words, every effort has been made to hold down expenses. He stated that Editor Eberle and he and others privileged to work in this structure are looking forward with a great deal of pleasure and sincere appreciation to those who have made it possible. The Headquarters should be a central point for professional pharmacy in this country and he believed that many avenues of effort, such as this laboratory building Chairman Dunning had spoken of, will be opened up as soon as people realize that American Pharmacy has a home and that these projects can be brought together and promoted. He thought that there would be many developments from this building that are unknown to even those who have been so intimately associated with it. This building will place pharmacy permanently before the people—the laboratory building has come out of just such an idea. When the building was first designed it was intended to have a small chemical laboratory. He could assure the governmental agencies that it is a unit in a large institution which will develop there.

Secretary Kelly concluded by saying that it had been a real pleasure to work with Chairman Dunning and those who have given such splendid assistance in this building and to the governmental agencies who appreciate what pharmacy is endeavoring to do and the very finest support has been given. He realized that a word of thanks would not be complete without saying that every person who has given the smallest amount of money to this project has made a contribution to a fine effort.

President Philip stated that all members who have the opportunity should visit the building and invite men of prominence and others to see the building with them.

President Philip then introduced Dr. W. G. Campbell, Chief of the Food and Drug Administration, U. S. Department of Agriculture. He spoke on the proposed revision of the Food and Drugs Act. The address follows:

THE BILL TO REVISE THE FOOD AND DRUGS ACT.

An address delivered before the AMERICAN PHARMACEUTICAL ASSOCIATION at Madison, Wisconsin, August 30, 1933, by W. G. Campbell, Chief, Food and Drug Administration, U. S. Department of Agriculture.

Time, with its changes, has proven the value of the Federal Food and Drugs Act, but it has also demonstrated its limitations. In that law the definition of drug is too restrictive. There is no provision for legal food standards. Adequate penalties are lacking. These deficiencies were as real a quarter century ago as they are to-day. At various times they have been the subject of comment by administrative officials seeking legislative correction. Both public service and industrial experience have proven the need for amendments to this law designed for the protection alike of the public and the honest manufacturer, but characterized by these and similar fundamental omissions. Not all the abuses, however, to be found in the present-day methods of marketing food and drugs are as old as the statute. Developments of recent years have produced their crop of marketing innovations by which the public may be stung and competition stifled. Jurisdiction over collateral representations and the requirement of informative labeling are imperative if some of the most vicious current abuses are to be eradicated.

The authors of the law could not have seen in 1906 and previously that the regulation of advertising was essential to the promotion of honesty and fair dealing in the sale of food and drug products. Originally the label was its own advertisement for these commodities. The last generation remembers well the list without number of drug products with slight, if any, therapeutic value branded as treatments or cures for cancer, tuberculosis, syphilis and other serious diseases. With the advent of a statute prohibiting on labels false statements fraudulently made, it became necessary, if the sphere of criminality was to be avoided, to provide some other means for the advancement of these misleading, extravagant and untruthful claims. Bill-board posters, highly decorative pages of magazines and the columns of the daily press were and are employed. When the radio, that invaluable boon to mankind, made its appearance, its facilities also were commandeered. Now, when the human voice through this medium can be carried to every home in the land, we listen to the modulated tones of the announcer as he tells us a miraculous story about the healing properties of this medicine or the nutritive value of that food.

It is an interesting and amazing fact that offenders frequently frustrate their own plans. If quick to seize a popular development adapted to the furtherance of their program, the greedy will in all probability use it with sufficient intemperance to effect their own undoing. That, precisely, is what is happening in the radio advertising of certain foods and drugs. It is impossible to mistake the popular adverse reaction. At first interested, perhaps beguiled, the public listens to the fantastic claims made for these products. As the truth which invariably attends extensive publicizing gradually becomes known, interest gives way to suspicion which is, in turn supplanted by resentment. But, unfortunately, the enterprise meanwhile becomes a financial success. This trusting, purchasers without number have guaranteed, blissfully ignorant of the fact that they are being defrauded.

Had Congress foreseen that the present skilful high-pressure advertising would in large measure annul the requirement for truthful labeling, and that this could be made possible because there was no provision compelling informative label statements, it is reasonably certain that the terms of the law would have dealt adequately with these features. The authors failed to anticipate the commercial trend of things. The initial shortcomings of the Food and Drugs Act of 1906, and the subsequent changes in methods of production and sale, operate to give us a law no more suited to current mercantile practices than a vehicle of the same vintage would be to the high-speed traffic which to-day courses our thoroughfares from one end of the country to the other.

A new bill, Senate 1944, introduced by Senator Copeland in the closing days of the special session of this Congress, undertakes to preserve all of the meritorious features of the existing law and to provide for new legislative authority to deal effectively with those abuses which cannot now be regulated. This measure was drafted at the direction of the President and under the general supervision of the Assistant Secretary of Agriculture. Your interest is in that portion of it which applies to drugs. A satisfactory discussion of it inevitably calls for a comparison with the existing statute. Let's see how the bill would control the production and sale of drugs.

First, may I mention the fact that the bill is not a food and drug measure exclusively. It applies also to cosmetics. It is definitely in the interest of society that cosmetics be subject to regulation. This fact has been recognized for years. The Department of Agriculture has advocated the necessary legislative measures to make this possible. The bulk of cosmetic manufacturers subscribe to such action. A repetition of the well-known and much-heralded injury caused by the use of "Koremlu," a depilatory containing thallium acetate, should be prohibited by law.

There are only two requirements for cosmetics under the section defining adulteration. The first is that a cosmetic shall not be injurious to the user under the conditions prescribed in the labeling, and the second is that it shall not contain poisonous or deleterious ingredients in excess of the limits of tolerance prescribed by the Secretary of Agriculture. Cosmetics are subject only to the general misbranding provisions of the bill which proscribe, as does the existing law, the use of any label statement which may be false or misleading. It requires, furthermore, that cosmetics in package form bear the name and place of business of the manufacturer, packer, seller or distributor, and a statement of the quantity of the contents.

The definition of drug in the present law covers, in addition to official products, "any substance or mixture of substances" used in the cure, mitigation or prevention of disease. There is a serious legal question whether this definition includes certain important medical adjuncts, like sutures and surgical dressings. It is certain it does not include devices. There should be no question about the authority to regulate them. Section 2 (*b*) of the bill makes subject to its requirements "all substances, preparations and devices" to be used in the treatment or prevention of disease.

The succeeding paragraph in the same section extends the definition of drug, for which there is a well-recognized need, to certain products at present subject to no regulation. In the absence of such therapeutic statements on the label as would bring them within the purview of the Sherley Amendment, fat reducers cannot be regulated even though they be composed of highly potent and dangerous drugs such as thyroid extract, the use of which should depend upon expert advice and be under expert observation.

One of the most important features of the new bill is to be found in the definition of adulteration of drugs, Section 4, paragraph (*a*). This defines a drug as adulterated if it may be dangerous to health under the conditions of use prescribed on the label. This paragraph has no counterpart in the present statute. It may be employed effectively for the protection of the public in such instances as the indiscriminate and unscientific use of radium. Every one remembers the comparatively recent and tragic death of a prominent Pittsburgh man from the excessive consumption of "Radithor," a radium water. Despite warnings against the general use of such products issued on several occasions by the Food and Drug Administration, supplemented by similar precautionary expressions from time to time by Federal and State health agencies, the use and consumption of such products is large. There is an inherent danger in all potent drugs. This paragraph will show upon casual consideration that it is not the purpose of the drafters of this measure to impede in any way the legitimate sale of legitimate drug products. It merely imposes upon the manufacturer of such drugs a determination of the conditions of use without danger and the conveyance of such information to the purchasers thereof. This is an observance of that care consistent with public rights and public health. Both the preservation of public health and the avoidance of opprobrium by the industry, constitute an urge for an amendment of the present act in this particular.

The status of the United States Pharmacopœia and National Formulary will not be impaired by this bill. The requirements of these authorities have been emphasized. At present, as you know, drugs must conform only to the standards of strength, quality and purity as determined by the tests provided in these references and then only when they are sold under the identical name recognized therein. The new measure exacts a compliance of products with the United States Pharmacopœia and National Formulary requirements if sold under a name that simulates that by which they are officially recognized. Section 4 will give the effect of law to some of the present advisory provisions of the Pharmacopœia and Formulary. Not only will it be necessary to conform to the standards of strength, quality and purity announced, but to the definition, formula and description set forth. When the protection of the consumer and the interest of the drug industry make necessary the expression of certain specifications in the preparation of official products, as is done for instance in the current U. S. P. monograph on bichloride tablets, no argument, I take it, is required in support of the statement that there should be authority to compel the observance of these precautionary provisions.

The new bill carries in slightly different form the provisions in the existing law authorizing the marketing of official products which are at variance with standard requirements. The specific terms of the present act are satisfied when the container bears a plain statement in which the strength, quality and purity of the drug are set forth. In order that such substandard prod-

ucts might not be confounded with the standard product, the Department, by regulation, has undertaken to interpret the word "plainly," as used in Section 7 of the act, to require an affirmative statement that the product is not a U. S. P. or N. F. article. There is a general observance of this interpretative regulation and the transposition of this requirement from the field of administrative expression to the text of the law will have slight, if any, effect on existing commercial practices.

The bill authorizes the Secretary of Agriculture to provide, as a supplement to Pharmacopœia and National Formulary requirements, tests or methods of assay where none have been prescribed or where those prescribed are found to be insufficient. Full recognition is accorded to the fundamental purpose of the Pharmacopœia and Formulary as texts of acceptable therapeutic agents. It is the responsibility of the Associations by which they are prepared to determine the conditions which should be imposed for an appropriate preservation of integrity and potency. In this it is not the wish of the Department of Agriculture to participate. The enforcement of the law which creates for the U. S. P. and N. F. a status of legality rests exclusively with the Secretary of Agriculture. This is a duty of which he cannot divest himself in any particular. Experience has shown that in certain emergencies there will be a furtherance of the purposes of the authors of these authorities, and certainly of the spirit of the Food and Drugs Act, if some provision is made for exigent supplementary requirements in the manner provided in this paragraph.

In the second paragraph of Section 7 of the present law, a drug is declared to be adulterated if its strength or purity fall *below* the professed standard or quality under which it is sold. This is an important provision, good as far as it goes. When certain drugs from which definite reaction is expected are administered in instances of emergency, fatal consequences may result when they possess only partial potency. Such results, however, are more likely when the potency is excessive and the drug is, as we sometimes have found, *above* the standard professed. While no court decision has been rendered on the point, there is a grave question whether the present law covers more than half the territory required for proper protection. In Section 4 (*c*) of the new measure, variation in strength above as well as below the standard declared is forbidden. The final paragraph of this section, defining additional forms of adulteration of a drug in terms typical of food laws, is a guarantee of the integrity of the product.

The general misbranding provisions apply alike to food, drugs and cosmetics. They forbid, as does the law now, the use of labels that will deceive and mislead. They require the package to show the name and place of business of the manufacturer, packer, seller or distributor. This was suggested at a conference by the Department with representatives of the drug industry before the bill was drafted and was intended to afford better regulation of the operations of itinerant drug vendors. The new requirement for declaration of net content of drugs in package form has been by general practice largely anticipated. A related feature is the subsequently appearing slack pack provision.

Section 8 defines particular forms of misbranding applicable to drugs. The paragraph by which this section is introduced deals with a question which has proven itself in our administrative experience to be troublesome and controversial. The drug industry is aware of the objection which has been repeatedly voiced by the Department of Agriculture to the enumeration of serious diseases on the labels of drug products, unless such products were in fact an effective treatment for such diseases. This position has been maintained despite the protests of manufacturers who asserted frequently that the ingredients of the drug product were those conventionally administered by the medical profession to victims of the diseases in question. Drugs may be prescribed and administered for alleviating effects, but that is not with the promise or expectation that they will exercise any influence on the course of the disease itself. We recognize as fundamental the principle that unadulterated foods and drugs may be marketed under labeling statements which express the truth. But our view is that a medicine which merely gives relief and is put forth as a treatment of a serious, perhaps incurable disease, can claim at best to have told no more than half the truth unless it is clearly labeled to show that it is a palliative only.

By far the greater number of all prosecutions for the misbranding of drugs has been developed under the paragraph restricting the character of their remedial claims. You are too familiar with both the legislative and judicial history of the Sherley Amendment to make comment on that provision necessary. You know that the present law requires the Government to

show that the labeling is not only false but is fraudulent. This involves the disclosure of an element of intent. Under the most favorable circumstances the existence of a purpose to defraud is difficult to prove. The Department's long-time advocacy of a modification of this harsh requirement has been characterized as an attempt to create conditions which would make success for the government in future litigation more definitely certain. This is not the case at all. Accepting the repeated assertions of the courts that the law is for the protection of the consumer, it becomes necessary, if the public is to benefit by these decrees, that the present illogical and inconsistent situation created by this paragraph be radically remedied. Repeatedly, in the courtroom, I have witnessed the introduction of overwhelming expert testimony to show the lack of value of the products on trial. Repeatedly unbiased scientific witnesses, whose evidence was not and could not be refuted, have sworn that such products could not make good on their claims to cure. Repeatedly verdicts against the people have been rendered because of the Government's inability to prove that the manufacturer unquestionably possessed full knowledge of that fact.

The sale of a "white liniment" as a treatment for tuberculosis, cancer and locomotor ataxia, or the sale of an extract of an innocuous weed as a cure for diabetes, could be undertaken only by one wholly ignorant of the most elemental facts about medicine or by one who deliberately embarked upon a campaign to defraud. If such an article were marketed by the latter, that transaction would be in violation of law. In that case the public is protected. If by the former, relying upon local traditions which may ascribe magical properties to the product and believing that the promises held forth were capable of accomplishment by persistent use of it, there is no offense. The product in each case is the same. To the public the result is the same. If protection is contemplated in one instance, why not in the other? The courts have said that a manufacturer of a drug product should have superior knowledge. On no other assumption can his ministration to the sick be justified. Hasn't the time arrived when we should give unmistakable expression to this requirement?

The second provision of paragraph (*a*) will eliminate the necessity to show fraud and authorize remedial action in all instances where claims for the curative properties of any medicine are made contrary to the general agreement of medical opinion.

The next two succeeding paragraphs, (*b*) and (*c*), relate to the declaration of narcotics and to alcohol, ether or chloroform. They are in form and requirement slightly different from those which now obtain.

Paragraph (*d*) requires on drug products other than disinfectants, for which special provision has been made, specific directions for use, with the proviso for exemption in those instances where protection of public health makes it unnecessary.

Paragraph (*e*) calls for informative labeling. It has its counterpart in the section defining misbranding of foods. In this the necessity for a disclosure of the complete formula is not imposed. Only the name and the quantity of each active ingredient must be given. I am aware of the opposition to formulas disclosures. It is asserted that such information on the label is of slight, if any, value to the consumer and that it requires divulgence of trade secrets. In my conversations with representatives of drug manufacturers I have had the opinion expressed frequently to me that manufacturers stress as a secret and property right not so much the composition of the product, which after all could be determined by competent analysts, but the method of preparation. While it is true that a full disclosure of all the ingredients of a drug product may be of no valuable import to all consumers, this necessarily will not be always true. Certainly it will be informative to a large percentage of consumers and, on the theory that opportunity for full and complete information should be accorded the purchaser as a right, this requirement in principle should prevail.

Paragraph (*f*), requiring on products which are marketed under names recognized in or which simulate those recognized in the United States Pharmacopœia or National Formulary to be packaged and labeled as required by these authoritative texts, is merely supplemental to the terms of the adulteration section relating to official products.

The provisions of paragraph (*g*) are of special interest to the distributing drug trade, particularly the retailer. A federal act based upon the interstate commerce clause of the Constitution, as is the existing law and the one proposed, has jurisdiction over interstate transactions only. If a substandard condition rendering a product violative of the provisions of the act is due to deterioration and occurs subsequent to its interstate shipment, no offense has been com-

mitted by the manufacturer or shipper and no criminal action can be directed against him. This constitutional limitation makes the federal law an insufficient and ineffectual measure for complete public protection. How to avoid the consumption of perishable drugs whose potency has diminished or disappeared is a problem which has presented innumerable administrative difficulties. The marketing of ether is an illustration. Most of the remedial measures against shipments of ether have been by seizure. In the large number of prosecutions which have been recorded, very few involve action against the manufacturer simply because proof was not available or procurable to establish the fact that the substandard condition of the product existed prior to interstate shipment. In a recent ambitious survey of official drug products, designed to show the condition as produced by manufacturers, very few substandard articles were found. It is recognized that the results of this work did not show the condition, particularly of perishable products, when sold by the retailer for consumption. It is certain that stocks of such drugs have frequently been purchased in injudicious amounts and too often held under circumstances unfavorable to their satisfactory preservation. Unquestionably the retailer himself is entitled to protection against a transaction in which he would become an offender without knowledge. The incorporation in the bill of authority by the Secretary to impose upon drug manufacturers the adoption of precautionary measures in the marketing of drug products liable to deterioration should meet with whole-hearted approval by both the consumer and the retailer.

No class of drugs has so nearly escaped definitely effective regulation as antiseptics and germicides. To no class of drug products can existing legislative authority be applied with such little consequence. In our initial investigations, articles claiming germicidal properties were themselves sometimes found to be actually contaminated with viable organisms. In the later years in which most of the popularity of antiseptics is encompassed, great progress has been made in the improvement of the quality of such drugs. Admittedly, the standard by which they are now gauged is an arbitrary one. Admittedly also, a germicide of little value for the destruction or inhibition of the growth of the strain of organisms by which its worth is appraised may produce satisfactory results under certain conditions of use against other organisms of a pathogenic character. At present, generalization characterizes the labeling claims and advertising representations of such drugs. It is the purpose in the pending bill to have generalized assertions give way to those of a specific character. Labeling indicating the use or uses to which an antiseptic product may be put and the conditions and duration of time required to effect the results will promote discriminating buying and protect the public against the sale of those particular articles which would be of slight or no value in the treatment of a given condition.

I have commented, unnecessarily perhaps, on the individual paragraphs of those sections which define adulteration and misbranding of drugs. I have done so with the idea of conveying to you some understanding of the particularity with which our experience has indicated to us the character of legislative authority which should be provided for effective regulation of traffic in drugs. Too frequently, as has been exemplified by our operations on antiseptics and germicides, administrative officials are required to take advanced positions in an attempt to protect the public and to standardize trade. In such instances they are condemned for the adoption of bureaucratic methods and the assumption of power they do not possess. It is immeasurably better, if well-known and well-established abuses are to be exterminated, that the law shall, in principle, contemplate this and make, where possible, specific provision for an exercise of the power necessary to accomplish that end.

There are other features of this measure general in application which may be termed innovations.

The extent to which false and misleading advertising has prevailed in the promotion of trade in food and drug products is recognized by every one. It is admitted by manufacturers, advertising agencies, publishers and broadcasting organizations. No matter what the competitive situation is, there can be no justification for resort to statements in the press and over the radio which the law of our land forbids on the label. This proposal to prevent advertising statements not consistent with the truth is merely a much needed extension of the principle enunciated in the existing law in its limitation of the assertions which can appear upon the labeling of the product itself. A continuation much longer of present advertising practices, and certainly any further extension of them into the field of unbridled fancy, will do the industry no lasting good. This is known by those awake to the promotion of their own welfare. Isn't it significant that,

according to current press reports, two associations of manufacturers of package medicines, independently and simultaneously, filed with the National Recovery Administration codes of fair competition which prohibited the publication of any false, untrue or deceptive advertisement?

This bill, in prohibiting false advertising, is taking with enthusiastic public approbation a chapter out of the book of ethics which the industry has written for itself.

There is another general feature which has been the subject of extensive speculation and that is control by permit. This is a resort to the system of regulation by license employed so prevalently during the period of the War. It is potent for more specific direction of manufacturing operations than are measures whose remedial powers depend upon the visitation of penalties. It has at times been advocated as the appropriate means of supervising the drug traffic by those whose special interests are within that sphere. For certain specialized drug products it is a control method now authorized by existing laws and employed satisfactorily. From several sources it has been endorsed by those speaking with the consumer's interest in mind. At this time there are several obstacles to its adoption in a general way, among them the very great cost that would be involved. In the bill, resort to such regulation is authorized where a protection of public health makes it necessary and then only when the injurious character of the product cannot be adequately determined after entering interstate commerce.

The remedial provisions are materially different from those set forth in the existing law. Extreme penalties are not necessary for the regulation of the conduct of the vast majority of our people, no matter in what enterprise they may be engaged. Most of us prefer to observe the requirements of law if we only know what those requirements are. To that element a legislative prohibition is sufficient to effect observance without regard to penalties. This fact, however, merely emphasizes the need for adequate provisions to compel compliance by the minority who do not do so voluntarily. A perusal of the indexes of published notices of judgment will disclose the names of certain offenders with such frequency as to suggest that the smallness of the fines now attaching to violations of the law may be paid as a form of insurance to perpetuate a practice involving ruinous competition and an imposition on the public. The greatest severity in penalty provisions is for the deliberate offender.

I am aware of the fact that there is in your own mind some concern about the extent to which the various sections in this bill confer upon the Secretary power to make certain determinations and decisions. If it were possible to incorporate in a law to regulate diverse products of such varying character as found in all types of foods, drugs and cosmetics, specific requirements which would meet all known and all anticipated situations, all of us, including the Secretary of Agriculture himself, would prefer to have that done. This is impossible. Congress is concerning itself in this proposed legislation with an enunciation of a series of prohibitions. In principle, they are definite. To determine whether and when they apply, it is necessary for some agency to ascertain the facts and make a formal finding thereon. Failure to provide for that flexibility created by this delegation of power to some responsible agency would result inevitably in the enactment of a law which could deal effectively with the practices of to-day but which, as such practices change, could not prevent the abuses of to-morrow. In a comparatively short time such law would become obsolete and the public would demand the enactment of a revision in the same way that that demand is manifesting itself now. If provision for this administrative power must be made—and that conclusion is inescapable—on whom more properly should it be placed than the head of that executive branch of the Government which is charged with the responsibility of enforcing the law? The highest court in the land has declared that the present Food and Drugs Act was enacted in the interest of the consumer. Its revision by the pending bill will not modify that purpose. In such determinations of a factual nature as the Secretary of Agriculture may be required to make, he will of course bear this object in mind. Protection of public rights, however, does not require unjust treatment of any firm or person. A sufficiently disinterested attitude will so characterize his decisions as to guarantee justness and fair dealing to all. Conclusions on important questions can be made only after hearings at which all parties in interest may appear and present their views. If, by any chance, an improper motive were to exist and the Secretary were to make decisions capriciously and manifestly unfair, the restraining power of the courts is always available to protect the rights of the manufacturer and dealer.

I have always entertained an exalted conception of the value of the pharmacist to society. The responsibilities which his calling imposes in preparing and dispensing medicines for the relief

of the ailing must forcefully develop in him that standard of ethics which justifies the confidence so universally accorded him. From boyhood experiences in a small town I recall the respect in which he was held by the populace. Whether he administers to a village or to an urban clientele, his obligations are the same. I am sure that he is conscious of them, and I can lend myself enthusiastically to the furtherance of any cause which has, as one of its objectives, his protection. In the pursuit of a vocation of such important significance to the health of mankind, he would not become an offender wittingly, and if we do not have, we certainly should have laws which will prevent him becoming one unwittingly. He should be protected against an infraction of those standards of action which the importance of his vocation and his own inclinations have formulated. In various respects which you and I both well know the present Federal Food and Drugs Act is insufficient to extend this guarantee. It is to his advantage, as definitely as it is to that of the public, that the present law be revised and that the bill introduced to supplant it be passed.

I participated in the drafting of the provisions of this measure. I have read it carefully several times subsequently, and I fail to find in it anywhere the imposition of an intolerable burden upon an honest manufacturer or merchant. In undertaking to maintain the integrity of food and drug products—in seeking to insure that they possess the qualities and strength which they purport to have—in preventing resort to false representations in any respect, both the existing law and the pending bill contemplate a protection of the purchaser by giving to him only those things which are his by right. It not only encourages, but it requires honest dealing. There can be no burden imposed and consequently no ground for meritorious complaint by an industry when nothing more is required or expected than that.

A question was asked Dr. Campbell relative to Section 9 which deals with false advertising. He replied that Paragraph C of that Section says this—"To discourage the public advertisement for sale in interstate commerce of drugs for diseases wherein self-medication may be especially dangerous, or patently contrary to the interests of public health, any advertisement of a drug representing it directly or by ambiguity or inference to have any effect in the treatment of any of the following diseases shall be deemed to be false." He continued: "Of course, the diseases mentioned in there are diseases about which different opinions may exist, but they are supposed to call the roll of more or less incurable diseases or those where an undertaking at self-medication will be injurious to the individual. The whole purpose of that item is the preservation of public health. There is no prohibition, you must notice, against the sale of these products properly labeled. Even though you may advocate them as of advantage in the treatment of such diseases, it is only the advertising feature that is covered.

"You can sell the product, but the whole concept behind the particular author of that amendment, who is one of the individuals participating in its drafting, was that it is not to the advantage of the public, nor is it to the particular advantage or credit of the package medicine manufacturers of this country, to create an impulse or an inclination for self-medication in instances where self-medication would not be of obvious advantage, but might be of serious consequences and should not be undertaken.

"Let me briefly say this on the subject of self-medication. I hold no brief for or against it. In the enforcement of the Federal Food and Drugs Act, I have said repeatedly that it is not the province of that organization to undertake to suppress or to discourage self-medication. I have maintained that the terms of that law, by implication, legalize self-medication. Its only requirement is that in those instances where products are sold for self-medication they be free from the conditions imposed under the adulterated section of the act, and the conditions imposed under the misbranding section of the act.

"But I submit there are times when we would not encourage our own families, or those in whom we have a very particular or definite interest, to undertake to cure their own ills if they are of the type contemplated by the list of diseases included in this particular paragraph. That relates only to advertising, and doesn't prohibit the sale of the product labeled properly as an alleviative, for instance, of some of these conditions if described purely as an alleviator.

"There is no joker in it. It is merely a reflection of the convictions of those who have seriously addressed themselves to this undertaking in a fair-minded spirit, both to the consumers and to the manufacturers."

The thanks of the ASSOCIATION was tendered Dr. Campbell.

Local Secretary Emerson D. Stanley was introduced by President Philip. He and Dr.

Richtmann made several announcements relative to entertainment features. President Philip called on Dr. E. L. Newcomb, secretary of the N. W. D. A., who spoke very briefly of his interest in the Headquarters Building. In closing the first General Session, President Philip stated that the next General Session would be called to order promptly at 2:00 P.M. on Thursday afternoon.

SECOND GENERAL SESSION.

The Second General Session was convened by President Philip on Thursday, August 31, at 2:00 P.M. He announced that former President Lucius L. Walton, who was taken ill a day or two ago was very much improved.

The report of the House of Delegates was read and approved. (See minutes of the House of Delegates.)

To the Association:[1]

As Chairman of the House of Delegates I am pleased to report that the First Session of the House was held on Tuesday, August 29th, with a splendid representation from the state pharmaceutical associations and from the other organizations entitled to membership.

The House was organized for business and heard the Chairman's address and the annual reports of the Council Resolutions in accordance with the By-Laws.

Under the head of New Business the Secretary submitted a written motion to amend Section A of Article 1 of Chapter V of the By-Laws of the ASSOCIATION to provide representation in the House of Delegates for the National Conference on Pharmaceutical Research. This motion was laid over for action at the next General Session.

A number of communications were read and referred for publication.

The Second Session of the House of Delegates will be held this evening and later reports will be submitted. (Signed) J. W. SLOCUM, *Chairman.*

Secretary Kelly stated that the nominations other than those for the House of Delegates will be submitted by mail to all the members.

President Philip called on Dr. Richtmann who gave the members information regarding the painting of the Honorary President Dr. Edward Kremers, presented by the Alumni of the University and other friends. The portrait will be placed in the Pharmacy Departmental Library of the Chemistry Building. (A half-tone of the painting appears in the September JOURNAL, page 806.)

President Philip called on Secretary H. C. Christensen to speak of the pharmacy exhibit at the Century of Progress, who stated that the AMERICAN PHARMACEUTICAL ASSOCIATION had sponsored this project. He said a space of 1700 square feet was allotted for this exhibit and this space would have cost $17,000. The space has been given without charge on an equal basis with medicine and dentistry and the basic associations which occupy all of the second floor of the Hall of Science. The proposition of building the fixtures, planning the exhibit and installing it along with the troubles and tribulations have occupied over $1\frac{1}{2}$ years, but the Local Committee, composed of Secretary Frank Kirby and Treasurer Julius Riemenschnieder and H. C. Christensen as Chairman, has had splendid support. Especially good coöperation has been given by the universities of the middle west including the University of Wisconsin, Purdue University and the University of Illinois.

The purpose of the Century of Progress Exhibit is indicated by the name. The exhibit had to be restricted to the historical, educational and professional studies and it was necessary to exhibit this so as to attract the public. Among the items selected for this were digitalis, iodine and cinchona. In the exhibit it was attempted to show the progress made in the preparation and standardization of drugs. In the Educational Department the sciences entering into pharmacy and the educational qualifications required of those who enter it were outlined. In his opinion the exhibit of pharmacy had been well worth while because it has interested the visitors. He thought that this exhibit would better acquaint the public with the professional standing of pharmacy.

The proposition of securing funds for this project, in times like the present, was a rather difficult one. This part of the work was in the hands of Treasurer Riemenschneider and Secretary Kirby. The exhibit up-to-date has cost between six and seven thousand dollars; the budget

[1] Presented at First General Session—see page 1008.

was planned for fifteen thousand but that much will not be necessary, but considerably more than we have on hand will be needed. He spoke in behalf of the attendant, Miss Esther Barney, that she is exceptionally well fitted for that position. She speaks several languages and is constantly up and doing and is not afraid to speak out when it is necessary. He cited several examples of her watchful care. She has made a remarkable record in handling the crowds and in keeping them good-natured and securing registrations of pharmacists as they come in. He spoke of the general attendance and referred to one day when 130 pharmacists registered and these were from 31 states.

Treasurer Riemenschneider spoke of the difficulties in raising money and the amount that would be necessary in order to defray all of the expenses of the exhibit.

Secretary Kirby referred to the continuous work of Secretary Christensen and he hoped that contributions would be forthcoming from the members who had seen the exhibit. He stated that pharmacists might well be proud of it.

Secretary Slocum of the Iowa Association thought that an appeal to the State associations would be productive of funds sufficient for the purpose. He was authorized to contribute $25 on behalf of the Iowa Association.

F. H. Freericks did not want to let the opportunity pass without saying a word for the exhibit: "It is impressive and hardly anyone comes into the Hall of Science without seeing first the American Pharmacy exhibit. Chairman Christensen and his associates have rendered a service which American Pharmacy can hardly repay." He moved a rising vote of thanks to Chairman Christensen and his associates which was given.

Dean C. B. Jordan stated that the American Association of Colleges of Pharmacy had contributed $50 to this worthy project. If every State pharmaceutical association would do likewise the needed $2500 would be collected.

George Judisch stated that in his opinion Iowa should give $50, and hoped that every state would contribute according to its ability.

Dr. Dunning was certain that Maryland would contribute $50. Secretary Kelly said he would like to write into the records that Maryland had already contributed $25 and Dr. Dunning remarked that the $50 was in addition. (We have since been advised that more had been given.) President Philip stated that after the completion of the program the subject would be opened again and all those who wished the opportunity of contributing could have it.

The next order of business was the symposium on "Professional Pharmacy," Part I of which is "The Foundation of Success for Professional Pharmacy," by E. F. Cook of Philadelphia. He said that he had seen the exhibit at Chicago, having spent four days at the Fair and came back to the pharmaceutical exhibit many times. He concurred in all that had been said. The exhibit presents a splendid opportunity to impress the public with the fact that pharmacy is a profession, serving in the interest of public health. He said that what Chairman Christensen and his coworkers have done and are doing is a demonstration of what pharmacy is doing. There is evidence of scientific development. He referred to the various exhibits connected with pharmacy and the wonderful influence for good through these exhibits.

The symposium which had been prepared on "Professional Pharmacy" for the Second General Session was splendidly carried out and will be separately printed in the November issue of the JOURNAL, including discussions and the introductory remarks by Chairman E. Fullerton Cook.

SYMPOSIUM ON PRACTICING PROFESSIONAL PHARMACY.

PART I.—MEETING THE PHARMACEUTICAL NEEDS OF THE PRACTICING PHYSICIAN.

The Foundation of Success for Professional Pharmacy, E. Fullerton Cook.

Extending the Use of Official Products, E. N. Gathercoal.

The Purpose and Influence of the "New and Non-official Remedies," by a representative of the A. M. A.

The Value of the A. PH. A. Recipe Book, J. Leon Lascoff.

The Growth of Professional Pharmacy, C. B. Jordan.

Coöperation between Physicians and Pharmacists of the Northwest, George Bender.

The Finds Concerning Professional Pharmacy in St. Louis, Frank H. Delgado.

Pharmacology in the Medical Curriculum and the United States Pharmacopœia, John C. Krantz, Jr.

"Selling" Professional Service, Anton Hogstad, Jr.

PART II.—THE HOSPITAL PHARMACY.

The Western Reserve University Plan for Hospital Pharmacies, Edward Spease.

The Hospital Formulary, Robert A. Hatcher and Wendell J. Stainsby.

The Benefits to a Hospital through Efficient Pharmaceutical Service, Harry E. Bischoff.

General appreciation was expressed by the members.

President Philip stated that the members undoubtedly consider this a worth-while program and he thanked the speakers on behalf of himself and the AMERICAN PHARMACEUTICAL ASSOCIATION for the contribution.

The Local Secretary made an announcement relative to the entertainments.

The Second General Session of the ASSOCIATION was then adjourned.

THIRD AND FINAL GENERAL SESSION.

The Third and Final General Session of the Eighty-First Annual meeting of the A. PH. A. was convened by President Philip at 8:35 P.M., September first. Secretary Kelly read the minutes of the Second General Session. (The minutes are not reprinted because they would duplicate the minutes of the General Session as printed.) There being no objection, the minutes were approved.

President Philip called for communications. The Secretary stated he had none.

Mrs. Philip referred to the Headquarters Building in Washington and said she desired to present for the Museum a thesis from which she read several paragraphs. She stated that in this thesis there are one hundred fifty pages. It gave her great pleasure to present "The Human Soul Is Tangible" to the AMERICAN PHARMACEUTICAL ASSOCIATION for the Museum.

President Philip, on behalf of the AMERICAN PHARMACEUTICAL ASSOCIATION, accepted the thesis and stated that he knew this had been a labor of many years on the part of the donor.

President Philip called for the final report of the House of Delegates: it was read by Secretary Kelly. (These are not published here as they are part of the minutes of the House of Delegates in this issue.)

Secretary Kelly stated that there were no items of business that required special comment except to say that reports of standing committees of the ASSOCIATION were received. Another item of business was the report of the Committee on Resolutions; this Committee presented a series of resolutions which were discussed, adopted *seriatim*, and the report of the Committee was adopted as a whole. Mr. P. H. Costello, of North Dakota, was installed as Chairman of the House and S. A. Williams, of Alabama, as Vice-Chairman by proxy, W. E. Bingham representing him.

Secretary Kelly respectfully requested that Acting Chairman Fischelis be given time to read the resolutions by title so that the members attending the General Session, who did not hear them in the House of Delegates, would know what the resolutions cover. The Acting Chairman read the resolutions by title.

President Philip inquired whether anyone desired to have the resolutions read in full. There being no request President Philip asked for the adoption of the report. A motion was accordingly made by R. C. Wilson and duly seconded. The resolutions were adopted.

Secretary Kelly reported that a motion was submitted at the previous General Session providing for membership in the House of Delegates for the National Conference on Pharmaceutical Research. The motion reads:

"It is moved that Section A of Article I of Chapter V of the By-Laws of the ASSOCIATION be amended by the addition of the words 'The National Conference on Pharmaceutical Research.' " The Secretary moved adoption of the motion. It was duly seconded and carried by vote.

President Philip stated that the next item of business was the presentation of the Ebert Prize and inquired whether the Chairman or Secretary of the Scientific Section was present. The Secretary stated that he had understood provisions were made at the session of the Scientific Section for this presentation.

Secretary Rowe reported that Chairman Husa was designated to make the presentation, not being present, action was deferred.

The President stated that the next order of business was the presentation of a fellowship in the National Conference of Pharmaceutical Research. The presentation was made by Secretary John C. Krantz, Jr., who spoke in part as follows:

"One of the functions of the National Conference on Pharmaceutical Research is to correlate and stimulate research along pharmaceutical lines in America. For the past two years this Conference has awarded a fellowship to a student pursuing work for the doctorate degree in pharmacy or one of its combinate sciences in schools of pharmacy in this country. This year, after examining the credentials of all candidates applying for this fellowship, the Committee has elected Mr. Ivor Jones of the School of Pharmacy of the University of Washington as a recipient of this fellowship."

Dr. E. V. Lynn represented Mr. Jones, and Secretary Krantz presented the $500 fellowship of the National Conference on Pharmaceutical Research.

In accepting the fellowship Dr. Lynn stated that it gave him a great deal of satisfaction to be able to accept this fellowship on behalf of Mr. Jones, who is one of his honor students and in his opinion would be one of the leaders of American Pharmacy in the not too distant future.

President Philip called on Local Secretary Stanley for announcements. He explained the arrangements for the trip to The Dells and also presented the golf tournament prize to Dean Wilber J. Teeters.

President Philip called on Chairman W. J. Husa to present the Ebert prize. He spoke in part as follows:

"It is generally recognized that in order to maintain the high standing of our profession research must be encouraged and the results made available by a program of publications." "These facts," he stated, "were recognized by that far-seeing pharmacist Albert E. Ebert when he established this prize, which is awarded for the most valuable paper presented during the year." He stated that the prize for 1933 had been awarded to Ewin Gillis and H. A. Langenhan of the University of Washington for their paper presented last year, entitled—"The Study of Hydrastis Canadensis." He called on Dr. E. V. Lynn of the University of Washington to receive the medal for his colleagues. Dr. Lynn said he did not know what Dr. Gillis and Dr. Langenhan would say under the circumstances, but it gave him a great deal of pleasure and gratification because he had some little part in this work, to accept the medal.

President Philip was pleased to announce that former president L. L. Walton who had been taken sick during the convention had improved and was getting along very nicely. He requested the Secretary to convey best wishes to the former presidents, L. L. Walton, C. W. Johnson, also to Dr. A. R. Bliss, Jr., whose illness had been reported.

President Philip announced that this concluded the business of the ASSOCIATION with the exception of installation of officers; he had hoped that Vice-President Jones would preside at this session, but he was not present.

Walter D. Adams and H. V. Arny were invited to the platform; they had been elected members of the Council and also H. C. Christensen, who had returned home. They were duly installed.

President Philip called on Mr. Adams to present Secretary E. F. Kelly, Dr. A. G. DuMez, Editor of the YEAR BOOK, and E. G. Eberle, Editor of the JOURNAL, for installation.

The foregoing responded briefly expressing thanks for the honors conferred.

President Philip stated that the Treasurer, Charles W. Holton, had not returned from a visit to Europe; he was declared duly installed. Proceeding with the order of installation, Dr. John C. Krantz, Jr., Second Vice-President, was introduced. In acknowledging the honor he said that he was not unmindful of the high privilege of serving the ASSOCIATION and pledged his support to the officers and members.

On behalf of the Baltimore Retail Druggists Association, Andrew F. Ludwig presented Dr. Krantz with a bouquet of flowers.

The First Vice-President, Dr. Robert P. Fischelis, was introduced and installed. He expressed his appreciation for the honor conferred; he was, especially, pleased to serve under President Robert L. Swain.

The President-Elect was then introduced. President Philip referred at some length to the work of Dr. Swain in various divisions of pharmacy and transferred to him the gavel of the ASSOCIATION. He, then, asked Mrs. Swain to pin the badge of office on the President.

The audience rose and applauded in approval of President Philip's beautiful conclusion to a well-conducted ceremonial and expressive of their regard for Dr. and Mrs. Swain and the esteem in which the former is held.

ADDRESS OF PRESIDENT R. L. SWAIN.

"Ladies and Gentlemen, Friends of the AMERICAN PHARMACEUTICAL ASSOCIATION: It is my happy privilege to have been a member of this ASSOCIATION since 1909, and becoming a member was one of the first acts I did after graduating in pharmacy from the University of Maryland. I have been an interested member of this organization during those years, although I was not in position to attend any of its national gatherings until the Asheville meeting in 1923. Since that time, it has not only been my privilege but it has been a very great pleasure to take some part in the work which this ASSOCIATION has done, to play some little part in the work which it has carried on, and at no time, in my participation in the affairs of this ASSOCIATION, have I wavered in my earliest conception of what the ASSOCIATION was, the most fundamental and the most intrinsically fine influence in American pharmacy.

"It goes without saying that a person cannot ascend to this office without being mindful of the honor which it confers, and I take it a man cannot accept this honor without an equal realization of the duty which it carries with it, and the responsibility which it imposes. I assure you that in accepting the honor, I do not separate it from the duty and the responsibility, and it shall be my intention, to the limit of my abilities, to perform the duty as best I can, and to discharge the responsibility for the next twelve months.

"I have taken a great deal of pleasure, and derived much real profit as well, from a rather careful study of the work which this ASSOCIATION has done during the eighty-one years of its history. Some of the most interesting reading I have been in position to do in recent years has been to go back through the YEAR BOOKS of this ASSOCIATION and follow step by step, sometimes a rather deliberate step, what this ASSOCIATION has done in the achievement of its great purposes.

"The reading of the Code of Ethics of this ASSOCIATION and also the other great principles to which this ASSOCIATION has adhered since the very earliest days, convinces one that at no time has the ASSOCIATION been concerned with anything except matters of great importance. It is to its credit, I think, that it has never allowed itself to be particularly concerned with mere passing things of the moment, trivial things. It has never lent its name or its great influence to things which were of no fundamental relationship to pharmacy. At no time, however (and this is very clearly set out in its history), has it wavered in its adherence to the principles to which it first became devoted, and it has kept true to them throughout the whole eighty-one years of its existence.

"Reading these YEAR BOOKS and going back to the addresses which my predecessors in this great office have made, I have been impressed with the fact that certainly in their day the men whom you have called to this office must have been (and this, of course, will have no relationship to myself) the most outstanding men in pharmacy at the time of their election. I know of no more profitable task than to go back through those early records and follow year by year the work which those great men have done. It seems to me that as I try to evaluate the services which they have rendered, I am rather conscious of the fact that at no time has the Presidential robe been badly worn. To me, it is a very stimulating thing to know that such a high standard of performance, such a high standard of principle has been set. I can assure you I shall not suffer from any greater ambition nor shall I be the subject of a more cherished desire than to maintain the standard which my predecessors have set.

"I doubt whether any man ever assumed the Presidency of this ASSOCIATION during a period when all forces, which have heretofore been accepted as rather stable forces, are more confused. I have often thought of the time through which my very dear friend, Bruce Philip, passed during his term of office, and I have often tried to visualize what his mental attitude must have been to a great many things which must have occasioned him great concern. No man trained in the law as he is trained, and no man having had the experience such as he has had, could view casually the great drama which is now being unfolded in our American life.

"I doubt very much that the changing scene will be confined entirely to our political life. Certainly, it is going to have a profound effect, and is meant to have a profound effect, on our

economic existence. I am rather inclined to feel that the changes which are taking place in our political government and the changes which are taking place in our economic life, will be reflected in such organizations as this.

"I do feel, however, that I am in a better position than President Philip was, because I can imagine that he, who at that time was just about to assume the duties which he has just relinquished to me (because I can recall quite clearly that small band of persons who met at the site of the headquarters building in Washington and saw Dr. Samuel Hilton break the ground for the building of the edifice which is now in actual existence as the American Institute of Pharmacy), may have had some grave doubts as to the final consummation of that wonderful undertaking. I say I am in a bit more fortunate position because the doubts which beset him cannot, so far as that is concerned, beset me.

"It was my happy privilege on Monday of this present week to be in the headquarters building of this ASSOCIATION, and I must admit that my heart filled with pride. When I looked upon that edifice of classical design, of matchless white, in such an unsurpassed environment, my heart swelled with pride when I realized that that institution was to be made a great instrumentality for the furtherance of the work of this ASSOCIATION.

"I congratulate President Philip and his co-workers (and he had many) in that this building was actually begun in his administration and brought to such a beautiful consummation within the same period. I rather imagine that whatever additional honors may come to him, or what additional burdens he may be called upon to assume, he will regard the successful consummation of this one great project as perhaps the most outstanding work of his life.

"You have chosen me to serve as President of this ASSOCIATION, and I can't tell you that it was altogether unforeseen, because I have been the President-Elect for a year. I might tell you, however, that being President-Elect has its advantages and disadvantages. There are some persons (and this refers particularly to some of the pharmaceutical press) who don't distinguish as they should between the President-Elect and the President of the AMERICAN PHARMACEUTICAL ASSOCIATION. Sometimes you slip into rather confusing situations because of their failure to make this distinction.

"However, the advantages derived from being the President-Elect are many, and I have been denied none of those advantages. It has been my privilege to work closely with Bruce Philip. He has been most courteous. I have been asked to participate in conferences and in consultations which perhaps would not be the lot of every President-Elect, because of the fact that I was close to him, he being in Washington and I being in Baltimore.

"It has also been an unusual privilege to work closely with my very dear friends, Dr. Kelly and Editor Eberle. So I might say, without the slightest spirit of egotism, that I have been through a period of training, as it were, during the last twelve months. At any rate, while I was most meticulous in my observance of the proprieties so far as the Presidency was concerned, and at no time allowed myself to be put in the position which might in any sense be regarded as an invasion of the prerogatives of the President himself, I have, nevertheless, been able to formulate some plans which I would like to put into effect this coming year.

"As I say, you have elected me to the Presidency of this ASSOCIATION, and I am going to take a few moments (and I assure you the moments will be few) to give you some idea of the things I hope to do during the next twelve months.

"First of all, let me say that we owe a duty to this ASSOCIATION which far transcends our responsibility as a mere member. Every pharmacist owes this ASSOCIATION a tremendous debt. As I said before, the AMERICAN PHARMACEUTICAL ASSOCIATION has been the nurturing ground, has been the very foundation as it were of the professional aspects of pharmacy. For years—going on a century now—it has bent its every energy toward the development of professional pharmacy. The early ideas which actuated this ASSOCIATION found their way eventually into the laws of the various states. Those ideas have also found their way into some of the federal statutes, and in actual fact, as well as in contemplation of law, pharmacy is a professional undertaking engaged in administering to public health.

"If this is true; if professional pharmacy is the intrinsic thing in pharmacy; if professional pharmacy is the outstanding mark of distinction which has been placed upon the drug store both by custom and by law, then it seems to me the ASSOCIATION which represents professional pharmacy is entitled to a great deal more at the hands of the profession than it has received.

"It seems to me a most unfortunate thing that this ASSOCIATION should be compelled to stress the necessity for membership. I could almost state that it is an indictment of professional pharmaceutical opinion that the membership of this ASSOCIATION has reached so low a figure. I don't wish to alarm you. The ASSOCIATION is in no special danger, but there is a vast inconsistency between the support which we have given the ASSOCIATION and the position of importance which the ASSOCIATION occupies. For that reason, I am going to devote as much of my time and my efforts and my energy during the next twelve months to doing what I can to build up the membership of this group.

"Again, don't consider this in any sense an egotistical statement. It is far from it. I want you to also bear in mind as I make these remarks about membership that I am quite familiar with the membership arrangements which have been in effect for some time. I know there is a national Membership Committee. I know also that the states have been divided into groups, and a chairman for each group, and that there have been sub-chairmen appointed for the various states. I must admit I don't know how the arrangement came about.

"I can well see that when it was first established it was a very fortunate arrangement, and may still be. I am going to ask, in case it is my privilege or duty to appoint these committees, even though I do appoint a national Membership Committee and also the various subcommittees, that the committees even after they are appointed grant me more or less the personal privilege of doing what I can to build up the membership.

"Frankly, I can't say I have given this all the thought it deserves because within the last two or three days, during our stay here, some things have come to the surface which would have a bearing upon any plan had I worked any plan out. However, I am going to ask some of the men in the AMERICAN PHARMACEUTICAL ASSOCIATION, and the National Association of Boards of Pharmacy, with whom I have worked intimately for a number of years, to assume some of the responsibilities of this work. I am going to select, as judiciously as I can, from the persons upon whom I think I can make a personal demand to undertake in the various states the work which I may suggest to them.

"I don't in any sense look upon this as an ambitious plan. It may not work and, to fall back upon the rather safe language of President Roosevelt, if I can realize seventy-five per cent of my ambition in this respect, I assure you I will be most happy indeed.

"I shall also frankly ask the deans of the colleges of pharmacy, with whom I have close personal acquaintance, to assist in so far as they can in this membership undertaking. I shall have no hesitancy at all in making what some of my friends in the National Association of Boards of Pharmacy may think an unreasonable demand upon them.

"I sincerely hope I may emulate the work done by our good and dear friend, Dr. Walton, during his presidency, when he made it his business to see to it that every member of the National Association of Boards of Pharmacy was also a member of the AMERICAN PHARMACEUTICAL ASSOCIATION.

"I am not undertaking this membership project, if you please, for any personal reason. I feel, and I feel very sincerely, that the inconsistency in the membership of the AMERICAN PHARMACEUTICAL ASSOCIATION and the vastly important work which it has done, and which it must do, simply must be faced, and we must put the ASSOCIATION in the place where it will not be embarrassed when it seeks to speak for professional pharmacy, as it has spoken in the past and as it must speak again in the future.

"So when I do ask you, as ask you I undoubtedly shall, to undertake a portion of the work of building up the membership in this ASSOCIATION, I can tell you very frankly I shall not expect many refusals to undertake the task.

"There are a number of other things which I have given my thought to, and I might refer briefly to the publications of the AMERICAN PHARMACEUTICAL ASSOCIATION. I know there have grown up in the ASSOCIATION probably two or three schools of thought regarding its official publication, the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

"Let me say at this point that there is no man alive for whom I entertain a higher regard than Dr. Eberle, Editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. You have in him not only a faithful servant but one who gives of his services long after he should be in bed, and you have no idea of the work which he does. It has been our privilege at our home on a number of occasions to entertain Dr. and Mrs. Eberle at dinner, particularly on

Sundays, and at eight o'clock we are already ready for his customary statement, 'I will have to go now. I have to get some proof ready for the mail,' or 'I have to do this, or that.' I doubt very much whether there is a night of his life that he can't be found in his office at midnight. I say that because I know. I make this statement so that nobody can possibly misunderstand what I am going to say. I don't think anybody could.

"There has grown up in the ASSOCIATION the feeling (and I think the justified feeling) that perhaps the time has come when we should give serious thought to the publications of the AMERICAN PHARMACEUTICAL ASSOCIATION, and to me that takes on added emphasis when we begin to consider the increase in membership, because it is perfectly obvious whatever increase in membership we are able to effect will be in the practicing group of pharmacists.

"It can be said to the everlasting credit of the educational institutions that from the very beginning they have almost had a complete membership in this body. The same thing is true of the research workers, and the various scientists interested in pharmaceutical endeavors. So I take it that the increase in membership is almost bound to come from the practicing class.

"Therefore, as I enter upon the Presidency of this ASSOCIATION, I look upon the necessity of working out this publications' problem as a bit more pressing maybe than heretofore. I subscribe totally to the feeling that the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION should continue to be the highest exponent of professional pharmacy in the United States. I subscribe fully to the feeling that nothing should be done which would in the least detract from the high purpose that JOURNAL serves in various sections of the country, and in educational and professional service.

"I am also sympathetic with the view, however, of another school of thought which has grown up in the ASSOCIATION, and that is that even though the membership should be pretty nearly what it is now, the JOURNAL should give as much thought and as much space to professional and scientific material as possible, and at the same time give more popular expression to news and to matters not necessarily professional, and certainly not technical.

"At the present time, I think there has been a very happy medium established because the JOURNAL must, of necessity, appeal as widely as possible to all the members of the ASSOCIATION. But I do look forward to the time, and if the ASSOCIATION is permitted to grow as I sincerely hope it may, when we may give serious thought to another type of publication in addition to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

"In making these statements, of course you are not to assume that I am speaking from original thought at all. I know there has been a committee working in the ASSOCIATION for some time probably with the objectives in view that I have stated. I only present the matter at this moment, and in this way, feeling that it will be necessary in a comparatively short while to have two types of publications.

"At this point I want to state again, even at the risk of being guilty of repetition, that I have never had the slightest misgiving as to the soundness of the policy which the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION has pursued. I have none now, and every statement I am making is looking ahead rather than looking back.

"It was my happy privilege about an hour or more ago to meet at dinner the Past-Presidents of this ASSOCIATION. I understand they broke their time-honored rule and let their good friend, Bruce, and myself come in. I was impressed, however, with the fact that some of the problems which concern us now have concerned other Presidents as being equally important as some of the problems which now confront us. I remember Dr. Dohme made a strong plea, when he was in the Presidential chair back, I think, in 1916 or 1917, for the unification and the federation or the amalgamation, if the term is more definitive, of the organizations in pharmacy. Doubtless the time was not then propitious.

"I was present also on the occasion when Dr. Walton delivered his Presidential address, and I remember with what earnestness he pled for a merger of the two national pharmaceutical organizations. Doubtless the time then was not sufficiently propitious.

"But I am impressed, from the experiences I have had in Washington in connection with Dr. Kelly, Bruce Philip and some of the rest of us, that perhaps the time has come when we should give serious attention to the unification of our forces. President Philip referred to this very courageously in his Presidential address. I say 'courageously,' because you always run the risk of your motives being misunderstood and your language misinterpreted. But we have

been confronted in Washington on a number of occasions recently with the criticism that our forces are not united and that, in fact, our forces are disunited. We have been led to believe there would be some very distinct advantages if we could eventually work out a real unification, a real solidification of our organizational forces in pharmacy in this country. I was greatly pleased to hear the Resolutions Committee report that the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION had tentatively at least approved in principle the very thing of which I now speak.

"I also would like to see worked out, and for the same reason, a closer, a more workable affiliation between the AMERICAN PHARMACEUTICAL ASSOCIATION and the state associations. I am hopeful that during the next few months the groundwork may be laid for doing this on a very practical basis. My interest in this, again, arises not from any personal consideration, as you might well know, but from my earnest and honest belief that it is going to be necessary for the professional forces in pharmacy to be organized on an effective workable basis.

"I feel as though I should apologize for intruding myself upon you at such length on this occasion, and yet I felt it would not be fair to myself and perhaps not fair to you to let the opportunity go by without giving you something in prospect of what I hope to do. I am careful not to say that these things will be fulfilled. I am careful not to do any more than place them on the basis of prophecy backed by personal appeal to those to whom I shall appeal for assistance.

"I remember reading some time ago in some popular magazine some discussion of the philosophy of government. I remember quite well the theme of the editorial went back to the days when the walls of Jericho were destroyed. The persons in authority worked out an ancient governmental idea. The walls of the city lay prostrated. The city was open to invasion by the enemies without, and perhaps from the enemies within. At any rate, the formula established on that occasion was that each man in the city was to be held responsible for the walls about his own house. The rebuilding of the wall around the city meant no more than a unification of action and coöperation on the part of all.

"I feel that in the emergencies which confront pharmacy in this country (and those emergencies are none the less real to you as pharmacists than they are to this ASSOCIATION as an organized body), we should assume our personal responsibility. I think we should assume that that responsibility holds us responsible for the wall about our own house. All I ask of you during this year, as your officers earnestly and diligently attempt to fulfil the duties which you have imposed upon them is that you measure up to your own individual responsibility. If you do, I am perfectly willing for you to hold me to strict compliance with my own."

Past-President Philip said, "May I respectfully remind you that during your year you are to do all the things I forgot to do."

Honorary President Kremers was not present and was declared installed.

Secretary Kelly expressed to the ASSOCIATION his sincere appreciation of the honor conferred for continuing him in office, and to Mr. Philip and the retiring officers his deep appreciation of their fine assistance. He assured President Swain of his heartiest coöperation and said that it was an unusual pleasure for him to work with him and another gentleman, on the stage, because he had some little part in bringing him up. He asked to return the privilege and for him to see that he is brought up right this year. He referred in a happy vein to Mrs. Swain—placing the President's pin on her husband, and also to the presentation of flowers to President Swain and the Second Vice-President, Dr. John C. Krantz, Jr. He said in part:

"We think down in Maryland that the rest of them, in addition to myself, have had something to do with your bringing up. We are very proud, sir, of the honor which has come to our state in the election of yourself (Dr. Swain) and Dr. Krantz. I assure you that these little tokens of appreciation express the sentiment not only of us who are here, but of every pharmacist in the State of Maryland to whom you gentlemen have been very good friends, and to whom you have rendered wonderful assistance. I should like to include, too, because we are supposed to be south of the Mason and Dixon Line, Mrs. Swain and Mrs. Krantz in this expression of appreciation, since we conceive that they, too, have had a part in your bringing up. For the pharmacists of Maryland I am very happy to offer you our congratulations and best wishes."

President Swain said he would make no attempt to express his thanks to the dear friends from Maryland; "we have a way down there of getting next to each other," he said "and they know how I feel and how Mrs. Swain feels, and, doubtless, how Dr. and Mrs. Krantz feel."

On motion duly made and seconded, it was voted to adjourn at 9:50 P.M.

HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

ABSTRACTS OF THE MINUTES OF THE SESSIONS HELD IN HOTEL LORAINE, MADISON, WIS., AUGUST 28 TO SEPTEMBER 2, 1933.

The First Session of the House of Delegates was convened by Chairman J. W. Slocum at 1:40 P.M., August 29, 1933; he welcomed the delegates present. The roll call showed that a quorum was present and the House of Delegates was declared organized for business.

The names of delegates and organizations represented follow. The name of the organization or state is in Italics, names of delegates in capitals and small capitals, and the names of voting delegates in bold face.

The minutes of the House of Delegates are printed here, and to avoid duplication in printing will also answer for the reports of the transactions made to the General Sessions—the reports are abstracts of the minutes. The names of the delegates follow:

A. PH. A. SECTIONS.

Scientific—**L. E. Warren,** Washington, D. C.
Education and Legislation—**R. H. Raabe,** Ada, Ohio.
Practical Pharmacy and Dispensing—**I. A. Becker,** Chicago, Ill.
Commercial Interests—**Rowland Jones,** Gettysburg, S. Dak.
Historical Pharmacy—**L. E. Warren,** Washington, D. C.
Conference Pharmaceutical Association Secretaries—**Charles J. Clayton,** Denver, Colo.
Conference Pharmaceutical Law Enforcement Officials—**George W. Mather,** Albany, N. Y.

A. PH. A. BRANCHES.

Baltimore—**C. Jelleff Carr.**
Chicago—**Ralph E. Terry.**
Cincinnati—**Frank H. Freericks,** CHARLES G. MERRELL.
New York—**Hugo H. Schaefer,** H. V. ARNY, CHARLES W. BALLARD.
Northern Ohio—**Edward Spease,** EDWARD D. DAVY.
Philadelphia—**Frank H. Eby,** E. FULLERTON COOK.
Pittsburgh—**C. Leonard O'Connell,** EDWARD C. CLAUS, E. C. REIF.

NATIONAL ASSOCIATIONS.

American Association of Colleges of Pharmacy—**Charles B. Jordan,** CLYDE M. SNOW, ROLAND T. LAKEY.
American Drug Manufacturers Association—**Paul S. Pittenger,** F. O. TAYLOR.
American Pharmaceutical Manufacturers' Association—**Frank B. Kirby.**
National Association Boards of Pharmacy—**Roy B. Cook,** H. G. RUENZEL.
National Association of Retail Druggists—**John W. Dargavel,** THOMAS ROACH, SAMUEL C. HENRY.
National Wholesale Druggists' Association—**E. L. Newcomb,** FRED W. DOHMEN.
Proprietary Association—**Delta E. Combs.**

STATE ASSOCIATIONS.

Alabama—**S. A. Williams,** W. E. BINGHAM.
Arkansas—**P. R. Turner.**
California—**Mrs. W. Bruce Philip.**
Colorado—**Charles J. Clayton.**
Connecticut—**Alice Esther Garvin.**
District of Columbia—**John William Lee.**
Florida—**W. M. Hankins.**
Georgia—**Robert C. Wilson.**
Illinois—**Wm. Gray.**
Indiana—**F. V. McCullough,** C. E. NELSON, F. W. MEISSNER.
Iowa—**W. F. Meads,** P. J. JEPSON, J. W. SLOCUM.
Kansas—**Roy C. Reese,** FRANK A. MILNE, A. H. KING.
Kentucky—**Gordon L. Curry,** GEORGE WILHELMI, J. W. GAYLE.
Maine—**Charles S. Pierce.**
Maryland—**Andrew F. Ludwig,** HARRY S. HARRISON.
Massachusetts—**Carl G. A. Harring,** WILLIAM E. GLOVER.
Michigan—**Duncan Weaver,** CLARE F. ALLAN.
Minnesota—**Charles V. Netz,** O. NORDRUM.
Mississippi—**E. L. Hammond.**
Missouri—**C. E. Caspari.**
Montana—**L. W. Richards.**
Nebraska—**Fred J. Creutz.**
New Hampshire—**Theodore J. Bradley.**
New Jersey—**Robert P. Fischelis.**
New York—**F. C. A. Schaefer.**
North Carolina—**M. L. Jacobs.**
North Dakota—**Nels N. Brakke,** WILLIAM H. SCHRAM, P. H. COSTELLO.
Ohio—**Frank H. Freericks,** M. N. FORD, CLAIR A. DYE.
Oklahoma—**Elbert R. Weaver, Jr.,** THOMAS B. CASEY, D. B. R. JOHNSON, LOYD E. HARRIS.
Pennsylvania—**Henry Brown.**
Puerto Rico—**H. C. Christensen,** E. F. KELLY.
Rhode Island—**James J. Gill,** W. HENRY RIVARD.
South Carolina—**J. M. Plaxco.**
South Dakota—**Henry J. Schnaidt,** H. A. SASSE, ROWLAND JONES.
Texas—**Walter D. Adams.**
Vermont—**O. W. McShane.**
Virginia—**A. L. I. Winne,** JAMES M. LEA, W. F. RUDD, W. G. CROCKETT.
Washington—**E. V. Lynn,** RUSSELL A. CAIN.
West Virginia—**J. Lester Hayman,** ROY B. COOK.
Wisconsin—**A. H. Uhl,** R. W. CLARK.
Wyoming—**R. C. Shultz.**

THE COUNCIL.

H. V. Arny, T. J. Bradley, W. B. Day, H. A. B. Dunning, S. L. Hilton, C. E. Caspari, W. Bruce Philip, Rowland Jones, E. F. Kelly, J. W. Slocum, E. G. Eberle, A. G. DuMez.

FRATERNAL DELEGATES.

Columbia University—**H. V. Arny.**
Brooklyn College of Pharmacy—**Frederick C. A. Schaefer.**
Drug Institute—**Paul C. Olsen.**

Fraternal delegates from Columbia University, University of Brooklyn College of Pharmacy and the Drug Institute, Inc., were recognized and brought greetings from these organizations.

Vice-Chairman Costello presided while Chairman Slocum read his address. The address was received and referred to the Committee on Resolutions. (The address of Chairman Slocum is printed in the September JOURNAL, pages 861 to 864; the Resolutions bearing on the address are printed on page 879.)

Chairman Slocum appointed the following Committees: **On Nominations,** *Chairman,* W. D. Adams, Texas; Frank A. Milne, Kansas; M. N. Ford, Ohio; Carl G. A. Harring, Massa-

chusetts; C. J. Clayton, Colorado; G. L. Curry, Kentucky; H. H. Schaefer, New York; J. L. Hayman, West Virginia; R. B. Rothrock, Indiana.

On Resolutions, *Chairman,* W. M. Hankins, Florida; F. J. Creutz, Nebraska; W. E. Bingham, Alabama; R. P. Fischelis, New Jersey; Thomas Roach, Oklahoma; C. Leonard O'Connell, Pennsylvania; G. W. Mather, New York; George Judisch, Iowa; Rowland Jones, South Dakota.

The Secretary made the suggestion that the Committee should hold an announced meeting and he offered to arrange for the rooms.

Chairman S. L. Hilton of the Council read the annual report of the Council A. PH. A., for 1932–1933, which was received.

ANNUAL REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES.

The proceedings of the Council are regularly published in the JOURNAL OF THE ASSOCIATION and this report is submitted to summarize them for the information of the House.

The reorganization meeting of the Council for 1932–1933 was held in Toronto, Canada, on Friday, August 26, 1932, following the final General Session of the ASSOCIATION. The following officers were elected for the year: S. L. Hilton, *Chairman;* C. H. LaWall, *Vice-Chairman;* and E. F. Kelly, *Secretary.* E. G. Eberle was elected *Editor of the* JOURNAL; A. G. DuMez, *Editor of the* YEAR BOOK; S. L. Hilton, member of the *Commission on Proprietary Medicines* for a term of five years; J. A. Koch and Glenn L. Jenkins, members of the *Committee on Research* for a term of five years; W. F. Sudro, H. H. Schaefer, H. W. Youngken and E. L. Newcomb, members of the *Committee on Unofficial Standards* for a term of four years. The *Committee on Recipe Book* was continued for one year.

The President was authorized to make such appointments as are now authorized, to fill vacancies as they may occur and to make additional appointments as may be necessary or desirable.

The Chairman was authorized to appoint an executive committee of the Council should the occasion arise. As a meeting of the Council or of an executive committee was not found necessary, in the interim, the business of the Council has been transacted by mail. Ten Council Letters, covering 47 pages and submitting 77 items and 27 motions have been sent to members of the Council. Among the more important items so transacted the following are mentioned:

The resignation of Ambrose Hunsberger, nominee, as a candidate for the *Presidency* of the ASSOCIATION and of L. L. Walton, as a nominee for membership on the *Council* were accepted.

Emerson D. Stanley was chosen as *Local Secretary;* the Hotel Loraine as the Headquarters, and the week of August 28th–September 2nd as the time for the 1933 meeting in Madison.

The contract for printing and mailing the JOURNAL for 1933 was awarded to the Mack Printing Company.

A budget of $34,930 for the current expenses of the ASSOCIATION for 1933 was adopted. The budget for 1932 was $39,525.

The accounts of the ASSOCIATION for 1932 were audited by W. A. Johnson & Co., Certified Public Accountants, of Baltimore, Md., and their report, with a summary of the accounts, was published in the JOURNAL for March 1933, pages 248–251.

Permission to use the text of the N. F. V for partial reproduction was granted to a number of applicants, all at the usual charge of $5 with the exception of the request of the N. A. R. D. which was granted without charge.

208 applicants have been elected members through the payment of dues and 3 through subscriptions to the Headquarters Building Fund, and one applicant was elected a Life Member upon payment of $100. 6 members became Life Members through the payment of dues for thirty-seven consecutive years and 4 through the payment of fixed sums in accordance with the By-Laws.

The Council approved the *program* of this meeting in Madison and will appreciate suggestions for the improvement of the program of future meetings.

$275,000 of U. S. Treasury Bonds, 3%, belonging to the Headquarters Building Fund were sold at 98½, to provide funds for the erection of the building under the terms of the contract reported at the 1932 meeting. The building is practically completed and the cost is within the terms of the contract.

The establishment of the North Pacific Local Branch at Portland, Ore., and of the Northern New Jersey Local Branch at Newark, N. J., and of the University of California Student Branch, at San Francisco, Calif., were approved. These organizations will provide three strong additional branches.

A resolution recording the earnest protest of the ASSOCIATION against any legislation permitting or requiring pharmacists to distribute beer and other alcoholic malt beverages in any form and of any higher alcoholic strength, for beverage purposes, was adopted and given wide distribution.

Chairman Hilton of the Council was authorized to act as *Treasurer* of the ASSOCIATION during the absence of Treasurer Holton who is abroad.

An award of $1000 for 1933–1934, was made from the Research Fund to Dr. W. J. Husa, School of Pharmacy, University of Florida, Gainesville, Fla., to continue his study of extraction, on recommendation of the Committee on Pharmaceutical Research.

The contract to print and distribute the YEAR BOOK, Volumes 20 and 21, in one binding, was awarded to the Lord Baltimore Press, Baltimore, Md., which firm has had the contract covering Volumes 15, 16, 17, 18 and 19. It is hoped to issue this combined volume during the fall and this procedure will bring the publication up-to-date.

The contract for printing and binding the National Formulary, Sixth Edition, was awarded to the Mack Printing Company, Easton, Penna., which firm had the contract covering the National Formulary, Fifth Edition. The contract for the sixth edition represents a substantial saving as compared to that for the Fifth Edition.

The second meeting of the Council was held in Madison on Monday, August 28th, at which the following business was transacted:

Reports covering their activities for the year were received from the Committees on Finance, on Property and Funds, on Standard Program, on the Recipe Book, on the National Formulary, on Research, on Student Branches and on Publications. Reports were also received from the Editor of the YEAR BOOK and from the Editor of the JOURNAL.

These reports were given careful consideration and will be printed in the September issue of the JOURNAL. They cover the property, funds and publications of the ASSOCIATION and show that the organization is in a sound condition.

The Council nominated Dr. Edward Kremers as *Honorary President*, E. F. Kelly as *Secretary* and C. W. Holton as *Treasurer*, for the year 1933–1934, and these nominations will be submitted to the House for action in a separate communication.

Twenty applicants were elected to membership at this meeting.

The Third Meeting of the Council will be held on Thursday morning and a report of that meeting will be submitted later.

Respectfully submitted,

S. L. HILTON, *Chairman.*

The report of the Treasurer and of the Secretary were by consent deferred to the Second Session.

The First Session of the House of Delegates was then adjourned.

SECOND SESSION.

The Second Session of the House of Delegates was convened by Chairman J. W. Slocum at 8:15 P.M. The chairman announced that the roll call would be omitted but that those who had not reported to the Secretary and were not present at the First Session of the House of Delegates were asked to present their credentials.

Secretary Kelly read the minutes of the First Session of the House of Delegates. (As stated, these are not repeated as they are embodied in the transactions of the First Session.) The minutes were approved. The report of the Secretary was presented.

REPORT OF THE SECRETARY.

June 30, 1932, to June 30, 1933.

The report of your Secretary will, as heretofore, be confined, as far as possible, to those

matters not covered in the reports of other officers and of the standing and special committees, with all of whom the Secretary's office works in close contact.

The ASSOCIATION year covered by this report has been an unusually busy and trying period. The ASSOCIATION, and the cause it serves, are to be congratulated that the unusual conditions through which we are passing have not affected them more unfavorably than, fortunately, has been the case. The ASSOCIATION'S income and its membership have been reduced. It has been necessary to materially curtail its operating expenses and to defer certain efforts that should have been undertaken. It has not been necessary, however, to discontinue any important activity and several new lines of work were started.

For these very satisfactory results, the ASSOCIATION is indebted to those who planned and developed its sound financial structure and policy, to its faithful officers, to its interested and loyal members, and to the coöperation of all with whom the ASSOCIATION has had to work during the year.

The 1932 Meeting.—The joint meeting in Toronto with the Canadian Pharmaceutical Association was an unusual and very successful event. The presence of the official representatives of the British Pharmaceutical Society and other distinguished visitors, gave the meeting an international character. The gathering has already shown a favorable influence on the relations of the three national associations, which is certain to benefit pharmacy in the English speaking world. Since that time, the Canadian Association has passed through a crisis with respect to health insurance, the British Society has been almost completely reorganized by Act of Parliament and we have experienced changes of a fundamental character. It is now necessary to have international coöperation, and we have cause for satisfaction that our relations with the Canadian and British pharmaceutical organizations are so close and so helpful.

The pharmaceutical press of this country and of the world were generous in the space given to the Toronto meeting. I wish to again express appreciation for this coöperation, and for the helpful interest the American pharmaceutical publications have taken in our efforts during the year.

The proceedings of the meeting were reported in the August, September and October issues of our JOURNAL. As is our custom, the addresses of the officers, the proceedings of the Council and the resolutions appeared in the first issue; the proceedings of the House of Delegates and of the General Sessions, and the proceedings of the A. A. C. P. and N. A. B. P. in the second, and the proceedings of the sections and Conferences in the third issue. Individual papers presented during the meeting follow throughout the year. By this procedure, a complete report of the proceedings reaches the members within three months of the annual meeting with the exception of the papers of which we now have such a number as to make their publication a question of importance. The number of papers presented and the greatly increased interest in the work of the sections are very encouraging. To meet the situation created by this increase is a problem which calls for brevity in speech and in writing.

Within a short time after the meeting, the resolutions adopted were sent to the publications, to the state and national associations, to boards of pharmacy, to the schools and colleges of pharmacy and to others interested, with the request that those resolutions of general interest be approved and supported. The request has been favorably acted upon, more generally than heretofore with the result that organized pharmacy is presenting a more uniform front with respect to the fundamental matters dealt with in the resolutions. May I again draw attention to the importance of the resolutions adopted by the ASSOCIATION and to the opportunity for leadership which they offer. An effort has been made to follow each resolution through and to see that its purpose is accomplished, so far as is possible. Time does not permit a report on each one but this can be made to the Committee on Resolutions. A number of the resolutions should be readopted so as to make their purpose effective.

The 1933 Meeting.—Local Secretary Stanley and his associates and the pharmacists of Madison and of Wisconsin have had a difficult undertaking, on account of the conditions, to carry through the arrangements for this meeting, and they deserve every commendation. The contributors and others who have coöperated so generously, also deserve our appreciation.

Your Secretary, with President-Elect Swain, visited Madison in February and conferred with Local Secretary Stanley and his associates, and the general arrangements for the meeting were completed at that time.

The Committee on Standard Program, consisting of Chairman Hilton of the Council, Chairman Bradley of the Committee on Finance and the Secretary, have tried to work out a general program which will allow for the ever-increasing activities of the meeting with the least conflict. An additional session has been provided for the Scientific Section and the Section on Education and Legislation. In addition to the Joint Session of the Scientific Section and the Section on Practical Pharmacy and Dispensing on Thursday evening, a Joint Session of the Section on Education and Legislation and of the Conference of Secretaries and the Conference of Law Enforcement Officials has been arranged for that evening. The latter will be a Symposium on Legislation and should be helpful in condensing the time given to the consideration of legislation enacted and proposed during the year.

The Second General Session, this year, will be devoted to a Symposium on Professional Pharmacy and Its Development during the Year. The Chairmen of the U. S. P. Committee of Revision, the National Formulary Committee and the Committee on Recipe Book are in charge of this session and have developed a program which will illustrate by lecture and exhibit, what is being done to promote the practice of pharmacy.

Chairman Slocum sent out a splendid appeal to the state associations to be represented in the House of Delegates, preferably by their presidents and secretaries. The response has been very encouraging and every effort should be made to have the House of Delegates function, as intended, as the clearing house of American Pharmacy. This can be accomplished only through the active interest and participation of the state associations.

Our general program is so complicated, that success requires strict adherence to it and prompt attendance at the various sessions.

Pharmacy and the Government.—The Secretary has been required to give increased attention to this important division of our work, and is pleased to briefly report the following developments:

The Office of Education, U. S. Department of the Interior, issued a revision of Guidance Leaflet No. 14, "Pharmacy as a Career," based on the four-year course and giving statistics about Schools and Colleges of Pharmacy and Boards of Pharmacy covering the calendar year of 1931. As previously reported, the ASSOCIATION had coöperated in the revision of the publication and had agreed to coöperate in providing a wide distribution of it. Unfortunately, the Congress increased the price of all governmental publications before the plan could be carried out. The Office of Education then secured permission for the ASSOCIATION to reprint the publication in full. Through the generous help of Mr. Carl Weeks, who distributed about 45,000, the reprints were made available at one cent each as originally planned and may be obtained from the ASSOCIATION at any time. It is planned to revise it from time to time. Thus our profession is provided with an authoritative statement of its position and functions, and the opportunities offered as a professional career. Every pharmaceutical agency, and particularly the schools and colleges, are requested to assist in giving this publication the widest possible distribution and the very low cost makes this reasonable.

The Veterans' Administration is proceeding with the re-classification of pharmacists in that branch, as professional rather than as sub-professional as heretofore. The restrictions on any salary increases is interfering to some extent with complete re-classification.

The Civil Service recently held the first examination for pharmacists based on the classification of pharmacy as a profession. Openings are very few, on account of government retrenchment, but the recognition is very helpful.

On account of financial conditions, no additional pharmacists have been commissioned in the Public Health Service and no progress has been possible toward legislation to commission pharmacists in the Army and the Navy. Conferences to this end have been continued as will be reported, and understandings have been reached which should bring about prompt and satisfactory results as soon as conditions improve.

For the ASSOCIATION and the National Drug Trade Conference, the Secretary has continued the efforts in connection with the draft of the Uniform State Narcotic Act which was adopted by the Conference of Commissioners on Uniform State Laws and approved by the American Bar Association last December. Representatives of pharmacy took an active part in the conferences and were able to secure some helpful additions and modifications in the draft. Other recommendations were not adopted, much to our regret. The draft of the Uniform Act

went to the Governors and Legislatures of the several states promptly with the active support of the U. S. Bureau of Narcotics and was enacted by several legislatures. The National Drug Trade Conference sent out suggested amendments and in most cases the act was amended to meet the most serious objections. This is a question of real importance to the pharmacists of each state and should be given serious consideration by the members of this House.

At the request of the Department of Commerce, the ASSOCIATION has undertaken to print in four issues of the JOURNAL, July, August, September and October, the second report of the St. Louis Drug Store Survey dealing with professional pharmacy. It is entitled "The Professional Pharmacy[1]—An Analysis of Prescription Department Activities" and was prepared by F. A. Delgado, a member of this ASSOCIATION, and A. A. Kimball, Bureau of Foreign and Domestic Commerce. It will cover about 80 printed pages and will be furnished in reprint form with paper binding at 25 cents per copy, less 10% for six or more and less 20% for 100 or more.

This is a valuable report and deals exhaustively with the conduct of activities in drug stores of the professional type. It will be of interest to proprietors and as a textbook in schools and colleges.

The Secretary participated in the hearings on the regulations under the Celler Bill which removed many of the restrictions on the prescribing and dispensing of vinous and fermented liquors. The right of pharmacy to solely dispense such prescriptions was recognized in the regulations, but only after an effort to give the wineries and distilleries the right to supply directly where the pharmacist did not carry a sufficient supply. The effort is being continued and pharmacy must be on its guard not only in this matter but also to protect the profession from the results which may follow the abuse of the dispensing of alcoholic liquors. In this connection, it is recommended that the possibilities which may follow the repeal of the Eighteenth Amendment should be given consideration, and a policy determined, if possible, for the ASSOCIATION to follow. This is, undoubtedly, a question of serious consequence to pharmacy as a profession.

The ASSOCIATION has taken part in conferences in connection with the proposed revision of the Food and Drugs Act. The revision proposed is far reaching in its professional as well as its industrial phases and pharmacy is very directly concerned. The standards for drugs and medicines is the most vital matter to the profession. It has been urged that some governmental agency should be set up to provide standards in place of the U. S. P. and N. F. and that the adoption of these publications as providing standards under the act may be unconstitutional. Fortunately, the authorities do not agree with either suggestion and in the draft of the proposed revision have recognized the U. S. P. and N. F. even more definitely than in the present Act. Bills amending the act have been introduced in both houses of Congress and will come up for hearings when Congress convenes. Fortunately, the General Session to-morrow will be addressed by the Chief of the Food and Drug Administration who has been requested to discuss the proposed amendments in full. During this meeting they should be considered and some action taken with reference to them.

The situation brought about by the National Industrial Recovery Act and by the President's Agreement is too recent and too well-known to require comment. It is probably true that the recognition of pharmacy as a profession and of pharmacists as professional persons by the President of the United States in his agreement, is the most positive and definite that the profession has received, and should permanently settle its professional status in so far as the Government is concerned. The willingness of the authorities of the National Recovery Administration to exempt registered pharmacists, apprentice pharmacists and even messengers delivering medicinal products from the requirements of the Act and the Agreement with respect to hours of employment and wages, evidences how completely pharmaceutical practice was recognized as a professional service which must be free from the restrictions applicable to industries. Under this condition it was not necessary for the ASSOCIATION to take further action. The ASSOCIATION has coöperated in securing directly this recognition and has also coöperated with the National Association of Retail Druggists and other pharmaceutical associations, wherever possible, in connection with their codes of fair trade practice.

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[1] See July JOURNAL, 1933, page 671. (Address the JOURNAL, 10 W. Chase St., Baltimore, for the number wanted. A number of copies will be bound in cloth, provided a sufficient number are ordered at $1.00 per copy.)

This development has raised the question very definitely, whether drug stores can with permanent advantage, continue the expansion of their commercial activities in other commodities than drugs, medicines, medical supplies and related items. As a profession, pharmacy now has a definite governmental recognition and position. This may be put into question by increased commercial activities and the whole matter deserves careful thought.

The developments enumerated here indicate clearly the increased control which the Federal and State Governments are exercising over our profession and the industry back of it.

Our interests and the welfare of the public as entrusted to us, can be protected only through organization and conscientious intelligent leadership of the organization. Under the conditions which now exist our form of professional organization is not effective, and this is a matter of paramount importance to pharmacists. To function effectively as a profession, there must be a closer affiliation of the state associations with the AMERICAN PHARMACEUTICAL ASSOCIATION and it is my hope that this question will have consideration at this meeting and that steps will be taken promptly to correct the present situation.

Hospital Pharmacy.—The resolution passed at the Toronto meeting requesting the council on Medical Education and Hospitals of the American Medical Association to coöperate in providing proper supervision over hospital pharmacies, was forwarded to that body. Later, we were advised that the Council, in response, had taken the following action:

> "*Resolved*, That a clause be inserted in the 'Essentials of a Registered Hospital' requiring that the pharmacy of a hospital be adequately supervised and should comply with state laws."

The revised "Essentials of a Registered Hospital" have not been published but it will, no doubt, cover our views. If so, it will bring about the same professional control of hospital pharmacies as of other pharmacies and put both hospital and other pharmacies on the same basis.

There has been a marked increase in the membership of hospital pharmacists in the ASSOCIATION and the advisability of a Section on Hospital Pharmacy is raised from time to time.

The ASSOCIATION has continued its membership in the American Conference on Hospital Service and was again represented at its annual meeting in Chicago in February, by Messrs. Grey and Becker.

The Report of the U. S. P.-N. F. Prescription Ingredient Survey.—This publication is now available in cloth binding and furnishes a comparison of the study recently completed and others made since 1880—of prescription ingredients.

This is another contribution the ASSOCIATION has made in this instance with the financial coöperation of the U. S. P. Board of Trustees, to the progress of professional pharmacy and to an accurate knowledge of the extent and character of pharmaceutical practice. Chairman Gathercoal of the Committee on National Formulary directed the Survey, and the compilation and publishing of the report. It was a difficult and trying task and he deserves credit for this splendid contribution to pharmaceutical information.

Relations with State and National Associations.—The President and the Secretary were unable to attend as many state association meetings this year as in previous years because of conditions and because of the attention that had to be almost constantly given to the Headquarters Building. However, President Philip delegated A. PH. A. members to represent the ASSOCIATION at these meetings and to extend greetings.

Reports on the Toronto meeting were made at most state association meetings by their delegates. These reports were more complete and were very helpful in informing members of the state associations of the work of the A. PH. A. The delegates to this meeting are urged to submit comprehensive reports at the next meeting of their associations. The data can be obtained from the JOURNALS of September, October and November and from the notes you will take during the meeting. An additional number of state associations have established sections for the consideration of professional pharmacy and greater attention is being given to the practice of pharmacy.

The A. PH. A. has continued its representation in and coöperation with the National Drug Trade Conference, the Metric Association, the American Association for the Advancement of Science, the National Conference on Pharmaceutical Research, the American Conference on Hospital Service, the Committee on Pharmacy Exhibit at the Chicago World's Fair in 1933, the International Pharmaceutical Federation and the Inter-Society Color Council.

Headquarters Building.—The building is now practically completed and ready to be furnished. The project has required much more attention than heretofore. The reports of the Committees on the Headquarters Building will give detailed information about the progress made.

All questions as to land have been satisfactorily settled with the Government during the year and the beautiful building and splendid location must be a source of pride to every member of the ASSOCIATION and to all who have contributed to this fine effort.

It is hoped to have the ASSOCIATION located in the new quarters by the first of the year.

Membership.—The total membership on July 1, 1933, was lower by about ten per cent than on July 1, 1932. During the year, 42 members including 9 Life Members, have died, 87 have resigned and 674 have been suspended for the non-payment of dues. During the year, 208 members were elected on payment of dues and 3 on account of contributions to the Headquarters Building Fund. Six members have become Life Members through the payment of dues for 37 consecutive years: Charles Leland Davis, Newburyport, Mass.; Harry Matusow, Philadelphia, Pa.; Cornelius Osseward, Seattle, Wash.; Benjamin Rosenzweig, Brooklyn, N. Y.; Mrs. Josie Wanous Stuart, Minneapolis, Minn.; Theodore David Wetterstroem, Columbus, Ohio; and four through fixed payments in accordance with the By-Laws: Wilber Stanton Amos, Kansas City, Mo.; Ernest Godlove Eberhardt, Indianapolis, Ind.; Arthur Schuh Metzger, Malden, Mo.; Carl Stier, Paris, France.

The total membership is approximately 4250 and the suspensions will probably be higher unless financial conditions improve. An increasing number have found it difficult to keep up even the nominal dues, and we need coöperation in bringing in new members as rapidly as possible.

Local Branches.—These organizations have kept up their programs very satisfactorily with one or two exceptions, and are to be commended for their fine efforts under present conditions.

The North Pacific Branch, in Portland, Oregon, and the Northern New Jersey Branch, in Newark, N. J., were established during the year. The following branches were also active during the year: Baltimore, Cincinnati, Chicago, Detroit, New York, Northern Ohio at Cleveland, Northwestern at Minneapolis, Philadelphia, Pittsburgh.

Student Branches.—Student Branches at the Pittsburgh College of Pharmacy, South Dakota State College, State College of Washington, and at the Universities of Florida, Wisconsin, California and Western Reserve were active during the year. A Student Branch at the California College of Pharmacy was organized recently, and others are being organized.

These student organizations are doing splendid work and they should be established in other schools and colleges.

Representatives of several student branches are in attendance.

Receipts of the Secretary's Office.—Attached are detailed financial statements of the receipts from January 1 to June 30, 1933, from Dues, the JOURNAL, the National Formulary, the Pharmaceutical Recipe Book, Bulletins, Proceedings, YEAR BOOKS, Badges and Bars, Buttons and Pins and Miscellaneous Items. Remittances to the Treasurer and the balance on hand are also set out.

The attached reports also give detailed information in reference to the printing, binding and sale of the National Formulary and the Pharmaceutical Recipe Book.

The Secretary's annual financial report for the calendar year 1932 was submitted with that of the Treasurer, and audited as provided for in the By-Laws.

SUMMARY OF RECEIPTS AND REMITTANCES, SECRETARY'S OFFICE, JANUARY 1 TO JUNE 30, 1933.

Receipts by Secretary.

Dues:	
Membership only	$ 112.00
Membership and JOURNAL, 1931	10.00
Membership and JOURNAL, 1932	247.00
Membership and JOURNAL, 1933	5592.92
Membership and JOURNAL, 1934	65.00
Membership and JOURNAL, 1935	5.00
Membership and JOURNAL, 1936	5.00
	$6036.92

JOURNAL	4235.71	
National Formulary	1381.40	
Recipe Book	278.00	
YEAR BOOKS	60.89	
Bulletins	1.80	
Interest on Deposit	5.86	
Total Receipts		$12,000.58

Remittances to Treasurer.

Jan. 24, 1933, Check No. 134	$2229.01	
Mar. 22, 1933, Check No. 135	1328.78	
Mar. 24, 1933, Check No. 136	1430.51	
Apr. 13, 1933, Check No. 137	930.03	
Apr. 29, 1933, Check No. 138	658.71	
May 12, 1933, Check No. 139	1075.87	
June 20, 1933, Check No. 140	1722.57	9,375.48
Balance on Deposit, Baltimore Trust Co.		$ 2,625.10

NATIONAL FORMULARY.

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F., JANUARY 1 TO DECEMBER 31, 1932.

Receipts.

Sales for quarter ending March 1, 1932, N. F. V	$ 714.34	
Sales for quarter ending June 1, 1932, N. F. V	1084.80	
Sales for quarter ending September 1, 1932, N. F. V	811.20	
Sales for quarter ending December 1, 1932, N. F. V	1570.43	
Use of text during year	10.00	
Sales for year, Dec. 1, 1931, to Nov. 30, 1932, N. F. III	1.50	
Sales for year, Dec. 1, 1931, to Nov. 30, 1932, Bulletins N. F. V	51.00	
Total Receipts		$ 4,243.27

Disbursements.

N. F. V:		
Expenses Exhibit Phila. Meeting A. M. A.	$ 222.31	
Adley B. Nichols, Booklets	15.43	
N. F. VI:		
E. N. Gathercoal, General and Traveling Expenses	407.94	
Samuelson Duplicating Co., Bulletins, etc.	635.59	
Pilcher-Hamilton-Daily Co., Binders, etc.	92.90	
H. A. Langenhan, Committee Expenses	195.00	
Glenn L. Jenkins, Committee Expenses	304.20	
L. A. Engel Press, Printing	28.25	
Nat'l Confer. Pharm. Research, Membership	25.00	
W. T. Robinson, Letterheads	16.00	
Adley B. Nichols, Postage, etc.	8.86	
J. A. Dorgohn, Lettering N. F. Binders	16.50	
Merck & Company, Chemicals	7.22	
Ruth Bos, Clerical Services	112.00	$ 2,087.20

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F., JANUARY 1 TO JUNE 30, 1933.

Receipts.

Sales quarter ending March 1, 1933, N. F. V	$1159.20	
Sales quarter ending June 1, 1933, N. F. V	214.20	
Sales to June 30, 1933, N. F. III	1.50	
Sales to June 30, 1933, Bulletins N. F. VI	6.50	$ 1,381.40

Disbursements.

N. F. V:		
Henry S. McKeen & Son, Insurance	$ 11.25	
Mack Printing Company, Printing and Binding	780.68	
N. F. VI:		
E. N. Gathercoal, General and Traveling Expenses	298.49	
Samuelson Duplicating Co., Bulletins, etc	391.00	
Pilcher-Hamilton-Daily Co., Binders and Paper	106.36	
Glenn L. Jenkins, Expenses Sub-committee No. 2	6.40	
H. A. Langenhan, Expenses Sub-committee No. 3	18.80	
Mrs. L. E. Barnett, Clerical Services	120.00	
Gaw O'Hara Envelope Company, Envelopes	41.86	$ 1,774.84

SUMMARY OF RECEIPTS AND DISBURSEMENTS ON ACCOUNT OF N. F., JANUARY 1, 1926, TO JUNE 30 1933.

Receipts.			*Disbursements.*		
1926	$45,318.21		1919–1920	$ 1,038.89	
1927	17,460.75		1921	1,169.98	
1928	14,565.15		1922	404.21	
1929	12,718.40		1923	227.72	
1930	9,940.05		1924	95.59	
1931	8,271.00		1925	236.30	
1932	4,243.27		1926	20,857.09	
1933 (to June 30)	1,381.40		1927	8,389.38	
			1928	3,560.41	
Total Receipts		$113,898.23	1929	3,556.60	
			1930	6,123.32	
			1931	3,702.38	
			1932	2,087.20	
			1933 (to June 30)	1,774.84	$53,223.91

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO DECEMBER 31, 1932.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1932	Buckram	387	$2.40	$ 928.80	
	Leather	0			
	Less freight and drayage			214.46	$ 714.34
June 1, 1932	Buckram	450	2.40	1080.00	
	Leather	1	4.80	4.80	1,084.80
Sept. 1, 1932	Buckram	338	2.40	811.20	
	Leather	0			811.20
Dec. 1, 1932	Buckram	659	2.40	1581.60	
	Leather	0			
	Less freight and drayage			11.17	1,570.43
Total Sales for 1932					$ 4,180.77

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO JUNE 1, 1933.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1933	Buckram	483	$2.40	$1159.20	
	Leather	0			$ 1,159.20
June 1, 1933	Buckram	93	2.40	223.20	
	Leather	1	4.80	4.80	
				228.00	
	Less freight and drayage			13.80	214.20
	Total Sales for 1933 (to June 1)				$ 1,373.40

SUMMARY OF COPIES OF N. F. V—PRINTED AND BOUND TO JUNE 1, 1933.

Series.	Buckram.	Leather.	Total.
A	19,561	500	20,061
B	10,023	...	10,023
C	5,000	...	5,000
D	5,000	...	5,000
E	5,000	...	5,000
F	3,042	...	3,042
	47,626	500	48,126

SUMMARY OF COPIES OF N. F. V—DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO JUNE 1, 1933.

	Buckram.	Leather.	Total.
Copies used in copyrighting and for complimentary distribution through the Mack Printing Co.	33	12	45
Copies distributed complimentary through the Chemical Catalog Co.	32	...	32
Copies sold by the Chemical Catalog Co.	18,021	107	18,128
Copies distributed complimentary through J. B. Lippincott Co.	15	...	15
Copies sold by J. B. Lippincott Co.	28,505	29	28,534
Copies held in stock by J. B. Lippincott Co.	1,020	352	1,372
	47,626	500	48,126

PHARMACEUTICAL RECIPE BOOK—SUMMARY OF RECEIPTS AND DISBURSEMENTS, P. R. B. I.

Receipts.

1929	$5256.00	
1930	1920.98	
1931	3641.80	
1932	1356.64	
1933 (to June 1)	278.00	
Total		$12,453.42

Disbursements.

1917	$ 10.50	
1918	19.26	
1919	....	
1920	1.40	
1921	23.98	
1922	42.93	
1923	....	
1924	470.70	
1925	572.47	
1926	336.38	
1927	95.08	
1928	766.66	
1929	9838.65	
1930	51.00	
1931	61.96	
1932	....	
1933 (to June 1)	8.63	
Total		$12,299.60

SUMMARY OF SALES P. R. B. I—JANUARY TO DECEMBER 31, 1932.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1932	Buckram	39	$2.78	$108.42	$ 108.42
June 1, 1932	Buckram	275	2.78	764.50	764.50
Sept. 1, 1932	Buckram	59	2.78	164.02	164.02
Dec. 1, 1932	Buckram	115	2.78	319.70	319.70
Total					$1356.64

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO JUNE 1, 1933.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1933	Buckram	61	$2.78	$169.58	$ 169.58
June 1, 1933	Buckram	39	2.78	108.42	108.42
Total					$ 278.00

SUMMARY OF COPIES OF P. R. B. I—PRINTED AND BOUND TO JUNE 1, 1933.

	Buckram.
Series A	5000

SUMMARY OF COPIES OF P. R. B. I—DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO JUNE 1, 1933.

Copies distributed complimentary	93
Copies sold	4487
Copies held in stock	420
Total	5000

ACCOUNT OF YEAR BOOKS, PROCEEDINGS, BULLETINS.

1. Sales:		2. Expenses:	
1932	$1167.95	1932	$5052.92
1933 (to June 30)	62.69	1933 (to June 30)	66.07
Total	$1230.64	Total	$5118.99

E. J. KELLY, *Secretary.*

TREASURER'S REPORT.

The report of the Treasurer was presented. It follows.

REPORT OF THE TREASURER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, C. W. HOLTON, TREASURER, JANUARY 1 TO JUNE 30, 1933.

PROPERTY AND FUNDS OF THE ASSOCIATON.

	June 30, 1932.	June 30, 1933.
Current:		
Savings and Checking Accounts	$ 1,090.53	$ 2,145.63
Secretary's Account, Baltimore National Bank	972.03	2,625.10
Total	$ 2,062.56	$ 4,770.73
Permanent:		
Endowment	$ 14,340.42	$ 14,921.12
Centennial	5,455.55	5,648.18
Ebert Legacy	7,792.32	8,117.32
Ebert Prize	1,081.54	1,072.85

Life Membership	42,046.89	42,106.74
Endowed Membership	125.00	129.20
Research	63,441.28	64,319.86
Headquarters Building, Certificate of Deposit, Bonds and Cash	301,149.88	74,582.18
Headquarters Building, Property	200,360.09	422,624.19
Total	$635,792.97	$633,521.64
Trust:		
Procter Monument	$ 16,349.57	$ 16,982.82
Remington Honor Medal	1,368.18	1,314.41
Total	$ 17,717.75	$ 18,297.23
Summary:		
Assets	$637,855.53	$638,292.37
Held in Trust	17,717.75	18,297.23
Total	$655,573.28	$656,589.60
Increase June 30, 1932 to June 30, 1933		$ 1,016.32

The Merchants and Newark Trust Company, The Maryland Trust Co. and the Boston Penny Savings Bank opened after the bank holiday on a full basis. The Baltimore Trust Company opened on a restricted basis and has since been reorganized as the Baltimore National Bank.

SECURITIES, PROPERTY AND CASH HELD FOR THE ASSOCIATION AND FOR THE TRUST FUNDS, JUNE 30, 1933.

Securities:		
Liberty Bonds, 4th issue, 4¼%	$ 44,500.00	
State of Massachusetts Bonds, 3%	14,000.00	
State of Tennessee Bonds, 4½%	3,000.00	
State of Illinois Bonds, 4%	6,000.00	
State of North Carolina Bonds, 4½%	7,000.00	
City of Baltimore, Md., Bonds, 4%	40,000.00	
City of Chattanooga, Tenn., Bonds, 4½%	8,000.00	
City of Dallas, Texas, Bonds, 4½%	11,000.00	
City of Newark, N. J., Bonds, 4%	6,000.00	
City of Paterson, N. J., Bonds, 4¼%	1,000.00	
Chicago, Milwaukee, St. Paul and Pacific R. R. Co., Bonds, 5%	200.00	
Town of Montclair, N. J., Bonds, 4¼%	4,000.00	
Maryland Trust Co., Certificate of Deposit	67,111.81	
City of Detroit, Mich., Bonds, 4%	1,000.00	$212,811.81
Property:		
Lots 3, 4, 5, 7, 12, 13, 14, 15, 16, 17, 801 and 802, Square 62, Washington, D. C.	$459,024.19	
Less Mortgage on Lot No. 7	36,400.00	$422,624.19
Cash:		
Boston Penny Savings Bank, Boston, Mass., Savings Account	$ 402.06	
Merchants & Newark Trust Co., Newark, N. J., Checking Account	1,755.85	
Baltimore Trust Co., Baltimore, Md., Checking Account	11,925.32	
Maryland Trust Co., Baltimore, Md., Savings Account, 2% Compounded semi-annually	7,070.37	$ 21,153.60
Total		$656,589.60

Of the securities owned by the ASSOCIATION only one $1000 bond of the City of Detroit, owned by the Life Membership Fund, has failed to pay interest to the amount of forty dollars ($40).

The property entry represents the actual cost of the site in Washington, D. C., for the Headquarters Building including recording, insurance of title and other incidental charges, advance payments on architects' and engineers' fees, etc. Record should be made of the fact that the original deposit on the site, amounting to $5000, was paid by Dr. H. A. B. Dunning personally and credited to his subscription, and therefore this amount does not appear in the bank deposits of the Headquarters Building Fund although it is included in the total of collections for the fund.

The net total of subscriptions to the Headquarters Building Fund on June 30, 1933, was approximately the same as on July 1, 1932, $817,156.43, and the total of collections, including the $5000 deposit toward the purchase of the site made by Dr. H. A. B. Dunning which was credited to his subscription, was $506,024.30. The Chairman of the Campaign Committee will give further details in his annual report.

The campaign has cost in total $62,613.11 of which amount $13,023.94 was spent in 1924, $11,944.05 in 1925, $10,007.06 in 1926, $9297.31 in 1927, $10,627.34 in 1928, $3333.61 in 1929, $1031.25 in 1930, $1495.98 in 1931, $1512.90 in 1932, and $339.67 to June 30, 1933. The cost of the campaign has been paid from the interest on the fund and all collections have been used for the purchase of the site, to pay taxes and insurance, architects', engineers' and builders' fees, etc., or are in hand.

The Secretary's report will show receipts from Dues, the JOURNAL, the National Formulary, Recipe Book, YEAR BOOKS, Proceedings, Bulletins, Badges and Bars, Buttons and Pins, and Miscellaneous Items, which are collected by him and deposited in the Secretary's account in the Baltimore National Bank. These receipts are transferred by check, accompanied by itemized deposit slips, to the ASSOCIATION'S checking account in the Merchants and Newark Trust Company from which all budget expenses are paid by voucher check.

The annual report of the Treasurer for the calendar year 1932 was audited and approved by W. Albert Johnson & Co.—the auditors approved by the Council. A summary of this report, together with the report of the auditors appears in the JOURNAL for March 1933, pages 248–251, and both reports will be published in full in the next YEAR BOOK.

Respectfully submitted,

CHARLES W. HOLTON, *Treasurer.*

On motion duly made and seconded these reports were received.

Chairman Slocum announced a deviation from the program by calling on Secretary Samuel C. Henry of the N. A. R. D. to address the House of Delegates. Mr. Henry stated that sixteen years ago he had the privilege and honor of serving as Chairman of the House of Delegates and stated that American Pharmacy had made great progress during these years. He referred to the chaotic conditions which prevail at the present time but admonished the leaders to keep their feet on the ground, their heads clear and move forward with a directness of purpose. That at the present time there were all sorts of theories from persons who know little or nothing of history and who refuse to be guided by men who learned their lessons in the bitter school of experience. In his opinion, when this day of storm and stress is past, when theory has been discarded and we have gone back to the principles upon which this great nation has survived and the principles which have made American Pharmacy what it is to-day, in spite of criticism it will be a higher and nobler calling. He hoped that as the years roll by the AMERICAN PHARMACEUTICAL ASSOCIATION and the House of Delegates may continue upon the course that has led up to the present high standing.

Chairman Slocum thanked Mr. Henry.

Chairman Slocum then called on President-Elect Swain who had come from Washington during the week and was informed relative to the present status of the NRA code.

REMARKS OF R. L. SWAIN RELATIVE TO THE PROGRESS OF THE NRA CODE.

"I am sorry that what I say may not be as stimulating and encouraging as the report of Treasurer *pro tem* Hilton. Frankly, I am afraid my report will be largely of a negative character, but it will at any rate be, I hope, an authentic picture of the tremendously important drama which is now being played in the capital of this country.

"I take it for granted that you are quite familiar with the general history of the develop-

ment of codes in this country. This whole effort to prepare codes of fair business practice is due entirely to the National Industrial Recovery Act, which makes provision for codes to be developed by the various trades and industries of this country. I shall pass up all of the preliminary features of this discussion and proceed immediately to the hearing in Washington on the code for the retail drug industry, the retail drug trade as it was called there, with an occasional reference to some of the preliminary work which was done about a week or ten days prior to the hearing on the code.

"For some time there have been gatherings of various drug interests in Washington all engaged in the effort to ascertain, if we could ascertain, just what was the Government's intention so far as the filing of the retail druggists' code was concerned, just what principles it should espouse, and just what features it should ignore.

"Of course you know that when the President issued his now famous President's agreement, referred to in Washington and elsewhere as the NRA, he established a blanket code for all industry. It was recognized at the outset that it was virtually impossible for the retail drug store to operate under the forty hours established. Mind you, the forty hours which was established in the President's agreement represents pretty nearly, I think, just what official Washington thinks industry should conform to. Unless there was some good and sufficient reason for a longer period of hours per week all industry in the United States was supposed to operate under the forty-hour week.

"You know that the grocers and food handlers were able to secure a forty-eight-hour week. That did not come, however, without some fight on their part. Hearings were held, conferences were held, information and statistics obtained, and from a fair understanding of the function of the grocers and food handlers' trade a forty-eight-hour week was granted them.

"It appeared to us (when I say 'us' I am referring to us collectively who were in Washington on the pharmacy reëmployment agreement) that due to the peculiar form of the retail drug business, bearing in mind its long hours of service throughout the week, throughout every day of the week and every week of the year, we were faced with the absolute necessity of securing an extension under the President's reëmployment agreement.

"On August 1st, Mr. W. Bruce Philip, the President of the AMERICAN PHARMACEUTICAL ASSOCIATION, and Counsel for the National Association of Retail Druggists, Dr. Kelly, and myself spent some time with the deputy administrator, Mr. Whiteside, who is in charge of retail codes, and we explained to him as forcefully and as effectively as we could some of the features of the retail drug store which we presumed he possibly did not know. He requested us to present our data in some more permanent form than an oral statement, and we did.

"This was followed up later by conferences with Mr. Dargavel of the N. A. R. D., Mr. Philip, Dr. Kelly and others, and in a comparatively short while the retail druggists were granted an extension of forty-eight hours a week. That, too, required some little bit of an effort. What I am trying to impress on you is that this forty hours a week was really very seriously intended, and was deliberately meant to embrace every form of industry in this country unless there was some reason for it being taken out.

"The first three days of the week of August 21st were set aside for a hearing of what is known as the general retailers' code. That code was subscribed to by the Retail Dry Goods Association, Retail Furniture Dealers, Retail Hardware Association, Jewelers, and I think two or three others, and so far as the hours of labor are concerned that was based, I think, on a forty-four-hour week, indicating some little bit of relaxation on the part of the administration as to just what this retail week should consist of.

"I am advised (in fact, I think this came out at the general retail hearing) that certain groups, even though they are theoretically signatories to this code, made the statement that it did not represent their views and it was not possible for them to operate under it, with the result that, while this code for all general purposes might be considered as authentic, at the same time it must be borne in mind that as referred to by the Government it is a tentative program.

"I want to mention one point, because I shall not make an effort to deal with it all. One of the most interesting and one of the most important, and probably one of the most troublesome, features of the code is that it permits a mark-up of ten per cent over invoice price. Just remember that is one of the main features of this general retailers' code, a ten per cent mark-up over the invoice price.

"On Friday and Saturday of this past week the retail druggists were granted a public hearing. Due notice of this had been given, and I would say that probably 500 people were present the morning the code hearing began. In this gathering of 500 people were a great many of the stalwart workers in this field.

"The code was presented in the name of the National Association of Retail Druggists and the actual presentation of the code was preceded by a general statement in which an effort was made to portray the basic features of the drug store as we know it. Some attention was given to the professional activities embraced within registration and education, and a great deal of attention was given to portraying the practical aspects and the public health service which a drug store renders. This was followed by an actual reading of the code by Mr. Samuel C. Henry, and then the presentation of the data which we sought to rely upon as reasons for having this code adopted.

"I shall make no attempt to give you a full picture of what this hearing consisted of, other than to state that it was very carefully planned. A well-thought out program was mapped out and adhered to very largely. I regret I haven't a copy of that program, but it covered a general statement of the economic conditions which now prevail. In summing up, statistics were presented showing the actual conditions as they now obtain. Mr. Lester Hayman presented a fine statement, fine, I say, so far as its features were concerned, but very depressing so far as the actual import of conditions as they now exist in the state of West Virginia. Similar reports were brought in from other states, with the net result, I think, that it is pretty well established that at least forty per cent of the retail drug stores of this country are considered bad credit risks and are virtually on a C. O. D. basis.

"The hearing was also participated in by others who showed the social import of the drug store. Clerks were there representing a movement to unionize the drug clerks of the country. The American Medical Association had a speaker there, Dr. Woodward, the Washington representative of the A. M. A., to protest against certain features of our code. Cosmetic people were there, and others.

"One of the very finest statements made (and I will gloss over this very quickly so I can get at the things you are most interested in), and one of the most effective was by Dr. Robert P. Fischelis, who brought to bear upon the hearing the great amount of work which was done by the Committee on the Cost of Medical Care in so far as that referred to pharmaceutical practice and its commercial importance.

"Dr. Fischelis showed that eighty-seven per cent of all the drugs handled in the United States were sold through retail drug stores. He pointed out that Professor Nystrum, had taken the United States Bureau of the Census figures and from them had established the statement or fact that ninety-five per cent of all the drugs and medicines manufactured and sold in the United States find their way to the ultimate consumer through the retail drug store. Dr. Fischelis also pointed out that of the total amount of retail business done in the United States in any calendar year, three and one-half per cent is done through retail drug stores, and of this amount one and one-half per cent is in the merchandising or non-medical field.

"It was shown by Professor Ostlund of the University of Minnesota, department of economics, that the average salary paid to registered pharmacists in the United States was $33.08 per week.

"There was a great deal of other information presented, all of which had a direct bearing upon the code which we had submitted. I shall not bother you with much of that, except to state that it is my view the hearing brought to light virtually every fact of importance of a professional and economic nature which would enable the administrator, and through him up to the President of the United States, to give intelligent approval to a code covering the governing of retail drug stores.

"The hearing was held, as I say, on the twenty-fifth of August, and by noon Mr. Whiteside said he was going to adjourn the conference because it was apparent to him that the code as it was presented would not be approved in its entirety, and that it contained a great many things which, while we were probably justified in asking for them, it was quite likely we would never get.

"I want you to bear in mind also that this code represented the composite view of most of the codes as presented by the various state associations. The N. A. R. D., I think, made a

very honest and conscientious effort to embody in this proposed code the best and the most eagerly sought after provisions that appeared in various state codes. I know I sat through all those hearings day after day and sometimes week after week, and I came to the very definite conclusion that the N. A. R. D. was not only anxious, but was most anxious, to prepare and present a code which would really be expressive of the conditions as they now prevail in the retail drug business, and equally expressive of what the retail druggist sought to have applied in meeting the problem.

"The code called specifically for the restriction and sale of drugs and medicine to pharmacists on public health grounds. It sought to take advantage of the present emergency and to attempt to restrict the future operation of drug stores to registered pharmacists. It has a whole series of unfair trade practices, all of which I dare say would commend themselves to you.

"The part of the code, though, that was considered the least likely of getting approval was a thing which to us seemed the most obvious, and that was the question of mark-up. The National Association of Retail Druggists' code called for a mark-up of twenty-eight per cent, which is actual cost of doing business as established by the St. Louis drug store survey, and other equally dependable economic studies, plus a five per cent profit. That was given absolutely no consideration beyond telling us that it didn't have the slightest chance of approval. At this point you want to bear in mind also that in the general retailers' code, which is applicable, if it is adopted, to about 670,000 retail establishments, calls for a ten per cent mark-up.

"The code which I have here is the original N. A. R. D. code which died at noon, August 25th. Mr. Whiteside called a conference of twenty-five or thirty people to meet around a large table in one of the rooms of the Chamber of Commerce of the United States, and attempted to explain just what his idea of the whole matter was. He made a frank statement that no retail group had come to Washington with any adequate conception at all of certain features of code making, and he particularly expressed the view that no one he had come in contact with, at any rate, showed any proper understanding of what we call, for the sake of argument, mark-up. Asked what his views were, he had none other than to state that he had some experts in the field of economics who were giving this thing close study and their earnest attention. We were asked to prepare a code with nothing from him except the statement that we had no intelligent understanding of what it was all about. He was fair enough to state that that applied equally well to all other persons who had come to Washington dealing in the retail field or any other field. None of them seemed to have any understanding of what should constitute mark-ups.

"Here is another code that is marked, 'Code of Fair Competition for the Retail Drug Trade as revised on August 26, 1933.' That went through the typewriter at five A.M. on Saturday morning, August 26th. Here is a code finally revised, again on August 26th, and read to the administrator about five-thirty that afternoon.

"I think you would be interested in knowing the hours of labor, store hours and employees' hours, and I think you will find this is reasonably satisfactory. So you may get an understanding of it, I think I will read that, store hours and employee hours, because so far as I know that is now in the code and I think has a very good chance of being approved. It will take but just a minute to read that, and you will understand exactly what I am getting at."

(Dr. Swain read the paragraph in the code relating to store hours and employee hours.) Commenting, he continued, "That means for stores open more than ninety hours a week their non-registered employees would be given an average of fifty-six hours a week.

"At the present time I think we can consider it as tentatively approved. At any rate, that stores open more than ninety hours a week have their non-registered employees on the basis of fifty-six hours. Now, mind you, the retail grocers and food handlers' trade got a forty-eight-hour week. We were granted fifty-six hours a week, but only on the condition, and only when we agreed that the minimum rate of pay would be raised accordingly. Therefore, all employees working as much as fifty-six hours a week would be paid not less than $16 a week in towns of 500,000, and graduated down in proportion in accordance with the President's re-employment agreement.

"I was discussing this yesterday morning with a member of the labor board, which has charge of this particular portion of our code, and while he would not permit himself to be quoted he led me to believe it was his opinion that the hours and wages in the code would be adopted. He also led me to believe, however, that there was some question as to whether or not the exemp-

tions of registered assistant pharmacists and apprentice pharmacists would be maintained. Certainly he was rather of the opinion they would not be maintained in the present language of the code, although he felt that whatever modification was made would be comparatively unimportant and might be perfectly acceptable to us.

"So I think we can say that up to the present time, at any rate, our code has been tentatively approved so far as hours and wages are concerned, and the exemptions.

"When we found out that the twenty-eight per cent, plus five per cent, was entirely out of order, Mr. Goode of the National Association of Retail Druggists divided the general committee into three groups, a legal committee, a committee on fair-trade practices, and a committee on hours and wages. I don't recall the personnel of these committees, but the committee on fair-trade practices worked the larger part of Friday night until three, four or five o'clock Saturday morning. During this time they went to Mr. Whiteside's apartment in the Shoreham Hotel to discuss certain features and phases of the work as they progressed.

"At that meeting the committee established a principle which I think represented about all they could possibly do in the way of a concession in price. I will read it to you as it now stands in the code. This is Article VIII."

(Dr Swain read the article.) He continued:

"I want you to note how far Mr. Goode's committee felt obliged to go to meet Mr. Whiteside's criticism. The first code asked for twenty-eight per cent, the cost of overhead, plus five per cent profit.

"This code comes in and says a $1 article may be sold for 79 cents. I think you will all agree that was about as far as anybody could go who knew conditions as they prevailed in the retail drug store.

"The day after that was given out, the Consumers' League came out and said this was a price-fixing plan, a most revolutionary idea and totally unacceptable. They said the ten per cent was also price fixing, and so far as the Consumers' League was concerned there would be no such thing.

"I have a whole series of newspaper clippings (they were torn out rather than clipped out), all of which show the newspaper comments as they have been coming out in Washington for the last two or three days.

"To bring the thing up-to-date without taking any more of your time, because I realize this is not on the program, if I were asked to give you what is my honest, candid belief of the situation as it now obtains in Washington, or as it obtained yesterday afternoon at three o'clock I should say we have a very good chance of obtaining a schedule of wages and hours as set out in the code. I think we also have a fairly good chance of maintaining the exceptions and exemptions as I have read them to you, and what is most encouraging of all the right of contract, which is submitted as the Capper-Kelly Bill, does for some strange reason seem to have gotten approval in Washington. It is borne out by the members there that Mr. Whiteside said in his closing remarks at the public hearing that he had discussed the right of contract with the powers that be in the National Recovery Administration, and they were disposed to approve it. That was on Saturday. I didn't get a great deal of encouragement out of that until I ran across the same feeling on Tuesday. When a thing lasts three or four days in Washington it is pretty good. I mean that, because the scene changes so quickly you simply don't know where you are. But when a group of us called on the officials at the administrator's office on Tuesday morning and Tuesday afternoon, we were led to believe that the right of contract would be approved. At any rate, it was not under fire at that particular time.

"At the present time, I am inclined to feel that is the actual situation, because I have here the closing remarks made by Mr. Whiteside at the public hearing on Saturday. I shall not read it all to you, although it is really quite a remarkable statement at that.

"This statement was made by Mr. Whiteside at the close of the public hearing."

(Dr. Swain read Mr. Whiteside's closing statement made at the public hearing.) He continued:

"I am passing Administrator Whiteside's statement to you with the comment that I believe it represents his honest opinion, that it represents his desires, and I am extremely hopeful that it is indicative of the viewpoint of the administration.

"Yesterday morning Mr. Whiteside told a group in his office that as far as he was con-

cerned he was tired, that he was mentally and physically worn out, and that he would desire to have two or three more days to study this whole thing, and he suggested that all of us go home and forget all about it, and come back on the sixth of September.

"I don't know exactly what to tell you. When I picked up the paper after I got on the train for Chicago last night, I found a reference in the Washington *Evening Star* which is a bit disturbing. I tore it out. It occurs under the code dealing with the coal industry, and here is a significant paragraph:

" 'The wind-up on coal left one really big agreement to be concluded, a code to embrace the country's entire retail trade with its employment of millions of persons. Strenuous effort continued to-day to bring the separate codes of the dry goods retail groups and of the druggists into line so as to permit covering every store in the country under one blanket retail agreement. Deputy Administrator Arthur D. Whiteside, in charge of the endeavor, was highly hopeful he would conclude the task by Labor Day, which is designated as the climax date for the Blue Eagle campaign.'

"To those who have been working in Washington, it is rather evident that at the present time, at any rate, the Government is considering a blanket retail code. Newspaper reports indicate it, contacts with administrative officials indicate it and it may be when the retail groups come back to Washington on September 6th they will be faced with the necessity of finding their way about and conducting their business under this general retailers' code.

"If that is done, I believe the schedule of wages and hours I read to you will be maintained and I am rather inclined to feel that the right of contract will be expressed in the general retailers' code.

"I doubt very much whether I have given you anything except a rather jumbled portrayal of what took place in Washington, what the situation actually was when I left there yesterday afternoon.

"I do want to pay my tribute—and I say this very, very sincerely because I know some little bit about some of the privations this group underwent, and I know somewhat of the hours that began early in the morning and wound up at four and five o'clock the next morning—and to say that I have never in my life been a participant in any movement which was more earnestly fought out, which was more conscious of its vast responsibility, and which was more eager to really work out something which would help meet the problems which confront the retail drug industry of this country. The spokesman for it was Mr. Goode, President of the National Association of Retail Druggists. He was supported, as best we could, by representatives of other associations, and we were all, as I said before, struggling to bring out of this exceedingly confusing, chaotic situation something which might be depended upon to meet the economic distress which unfortunately persists in our industry. I can only voice the hope that the prediction which I have made to you will turn out to be fact."

Chairman Slocum thanked Dr. Swain for his report.

Chairman Slocum called for reports and other communications from the ASSOCIATION, the Council and the Sections. There being no reports from these bodies, Chairman Slocum called for the report of the Committee on Legislation which was read by Dr. S. L. Hilton. (The report was referred to the Committee on Resolutions and action duly taken on its report—it will be printed under "Committee Reports" in this or a succeeding issue of the JOURNAL.)

Chairman Slocum advised that there will be a minority report by Mrs. W. Bruce Philip. In the presentation, Mrs. Philip enlarged on some of the points of her report. She also discussed points of the code.

Chairman Slocum asked for action on the minority report. S. L. Hilton contended that the presentation was not a minority report; it dealt with legislative matters, primarily, with the California law, and he moved that both the majority and the minority reports be referred to the Committee on Resolution. After some further discussion a vote was called for and the motion carried.

The report of the Chairman of the Committee on Pharmacy Week was presented by Chairman Anton Hogstad. Chairman Slocum thanked Dr. Hogstad for his interesting report. (The report will be printed under Committee Reports in this or a succeeding issue of the JOURNAL.)

Secretary Kelly read the report of the Council on the Nomination of Honorary President, Secretary and Treasurer.

Dr. Edward Kremers of Madison, Wisconsin, was named for *Honorary President*, E. F. Kelly of Baltimore for *Secretary* and C. W. Holton of Essex Fells, N. J., for *Treasurer*. Chairman Slocum called for action on the report and on motion of Walter D. Adams, seconded by S. L. Hilton, a vote was called for. The nominees were elected unanimously.

The Committee on Nominations presented the names of P. H. Costello of North Dakota for Chairman of the House of Delegates and S. A. Williams of Alabama for Vice-Chairman. On motion duly seconded and carried the *Secretary* was requested to cast the ballot of the House of Delegates for the nominees. There being no objection Secretary Kelly announced that he had cast a unanimous ballot of the House of Delegates for the election of P. H. Costello of North Dakota as Chairman and S. A. Williams of Alabama as Vice-Chairman.

The Committee on Transportation was called for. It follows:

REPORT OF THE COMMITTEE ON TRANSPORTATION.

The duties of the Committee on Transportation are of an executive character and do not call for the preparation or presentation of an elaborate report.

This committee was revived in 1929, and, during the past five years has been able to make arrangements with the railroads which, in the aggregate, have saved many thousands of dollars for the members attending the meetings in Rapid City, Baltimore, Miami, Toronto and Madison. This year we secured the very favorable rate of one and one-third times the single fare to Madison and return, either from the members' homes or from Chicago in connection with special exposition excursion tickets. Also, diverse routes may be used going and returning on the reduced rate tickets between our homes and Madison.

The railroads are much more reasonable in their requirements than they were a few years ago, but there are many formalities to be observed if we are to receive the full benefit of the concessions. It has been the constant effort of the Committee to secure all possible concessions, and our work has become more and more effective with our increasing experience in it.

Madison, September 1, 1933. T. J. BRADLEY, *Chairman*.

Chairman Bradley stated that the Committee on Place of Meeting had substantially been the same for the past fifteen years and this Committee had laid out a definite plan with logical sequences of places and he explained the manner of selection. Occasionally—there must be deviation for one reason or another as this year on account of the Fair in Chicago instead of meeting in the far Northwest the meeting was being held in Wisconsin. He explained that another deviation from the general plan may occur in the selection for next year, on account of the dedication of the Headquarters Building, and this has prompted the Committee to report for Washington for the 1934 meeting, and the nomination for the place of meeting in 1935 in the Northwest would have to be deferred.

On motion made by Walter D. Adams, and duly seconded, the report of the Committee was accepted and Washington was selected for the 1934 meeting.

The report of the Committee on Cosmetics was presented and accepted. It follows:

THE COMMITTEE ON COSMETICS.

To the House of Delegates of the American Pharmaceutical Association:

We have continued, to the best of our ability, to follow the literature of cosmetic chemistry and toxicology, and find therein a trend toward a demand for stricter regulation of the manufacture and sale of cosmetics. We believe that the burden of proof of the harmlessness of cosmetic agents rests upon the manufacturers of cosmetics, and that when there is any doubt as to the safety of any such agent it ought to be investigated under their auspices. We do not find in modern literature evidence of determined efforts to establish these facts, such as has been done by manufacturers of aluminized baking powder or of aluminum cooking utensils. Possibly some of the recent writings of dermatologists have been inspired, but most of the publications are in the direction of the improvement of dermatologic practice.

With the inclusion of cosmetic agents in the amended Food and Drugs Act, we believe it desirable for the ASSOCIATION for a time at least, to continue a Committee on Cosmetics, both to advise this ASSOCIATION and to coöperate with other commercial and professional associations in securing correct and reasonable interpretations of departmental decisions. We believe that

manufacturers and dealers generally will welcome the throwing of safeguards around the manufacture and use of cosmetics, to the end that the public may be better protected.

Respectfully submitted,
GEO. D. BEAL, *Chairman*,
F. W. NITARDY.

The Second Session of the House of Delegates was then adjourned.

THIRD SESSION.

The Third Session of the House of Delegates was called to order by Chairman Slocum at 9:20 A.M. The minutes of the Second Session were read by Secretary Kelly and approved.

The report of the Section on Education and Legislation was read and accepted; it follows:

REPORT OF THE SECTION ON EDUCATION AND LEGISLATION.

The meeting of the Section on Education and Legislation on August 30th was called to order by Chairman Rivard at 2:25 P.M. in the Hotel Loraine.

Five of the eight papers listed were presented, discussed and upon motion offered for publication. The remaining three papers were not presented because of withdrawal of title and non-receipt by the Secretary.

The Committee on Nominations presented the following report on officers, 1933–1934: *Chairman*, G. C. Schicks, New Jersey; *Vice-Chairman*, O. E. Russell, Indiana; *Secretary*, C. W. Ballard, New York; *Delegate to the House of Delegates*, W. H. Rivard, Rhode Island.

Upon motion these officers were duly elected and installed.

The joint meeting of this Section with the Conferences of Law Enforcement Officials and the State Association Secretaries, held August 31st, at Hotel Loraine, was called to order by Chairman Rivard at 8:15 P.M., with 49 members present.

Chairman Rivard opened the meeting with general remarks as to its purpose.

Reports were rendered by representatives of 18 states dealing with enacted and proposed legislation affecting pharmacy. Two papers dealing with legislative matters were read and discussed.

Upon motion duly carried it was resolved to request a continuance of this Joint Session.

The Joint Session was adjourned at 11:20 P.M.

R. H. RAABE, *Delegate*.

Secretary Kelly read a letter from the President of the Porto Rico Pharmaceutical Association, expressing greetings and asking that Secretary Kelly and Secretary H. C. Christensen act as their representatives. On motion duly seconded their wishes were complied with.

Chairman J. L. Hayman, being called upon by Chairman Slocum, stated that the Conference of State Pharmaceutical Association Secretaries had a surplus in its treasury, and by motion $50 was donated to the Pharmacy Exhibit at Chicago.

Chairman Slocum gave others the opportunity for making donations.

Chairman Robert P. Fischelis invited those who had resolutions to present to do so after the conclusion of this session.

The report of the Committee on Pharmacy Corps was called for; it was presented by Chairman R. L. Swain; it follows:

REPORT OF COMMITTEE ON PHARMACY CORPS.

Recognizing the inadequacy of the pharmaceutical service in the United States Army, the AMERICAN PHARMACEUTICAL ASSOCIATION many years ago established a Committee on the Status of Pharmacy in the Government Service, for the purpose of studying the whole matter with the ultimate view of creating in the army a professional pharmaceutical personnel, based on the standard of competency demanded by the laws of the several States. This committee carried on an effective work for some years, in which contacts were established with the Medical Department and other branches of the Federal Government. However, due to a change in the viewpoint of the ASSOCIATION, this first committee was discontinued, and a Committee on the Pharmacy Corps in the United States Army was formed. This latter committee was charged with the duty of drawing up suitable legislation for the establishment in the United States Army of a Pharmacy Corps, which would be responsible for the maintenance of satisfactory professional work in this

branch of the nation's defensive forces. In due course, such a bill was introduced, and was sponsored by Congressman Clyde Kelly of Pennsylvania, and Senator Royal S. Copeland of New York. Aggressive pharmaceutical support was given this bill. It received the endorsement of every State and National pharmaceutical organization as well as that of the National Drug Trade Conference. A hearing was accorded by the Military Affairs Committee of the House of Representatives, at which the cause of pharmacy was presented with consummate skill. Conditions as they actually exist were portrayed to the committee, and the glaring defects in the present system were pointed out. While no definite action was taken by the committee, it was apparent that our case had been presented with great force, and in a convincing manner.

The following summer there was a change in the Medical Department of the Army, Surgeon General Patterson having succeeded Surgeon General Ireland. This change necessarily set back our program, as it was essential that Surgeon General Patterson be made familiar with our objectives, the reasons upon which they rested and the progress which had been made. At this point, I desire to record the very definite impression that the members of this committee feel that Surgeon General Patterson soon became alive to the importance of the position taken by the AMERICAN PHARMACEUTICAL ASSOCIATION, and he pledged his best efforts to bring about the necessary changes as soon as possible. At this time, Surgeon General Patterson was interested in legislation to provide a general reorganization of the medical service of the army, which would provide an increase in professional personnel, in addition to a more unified and better classified unit. In pursuance of his official plan, the Surgeon General announced disapproval of a separate pharmacy corps, and expressed his preference that pharmacy be placed in the Medical Administration Corps, in which the various medical specialities would be grouped. Surgeon General Patterson also expressed his disapproval of separate action by pharmacy to attain a distinct pharmacy corps. He referred to this as piecemeal legislation, and said that he would regard it as inimical to his general plan for an improved medical service. In the conference with him and his advisers, immediately before the meeting of this ASSOCIATION at Toronto last year, Surgeon General Patterson reiterated his promise to aid in securing proper legislation as soon as possible, and on this occasion he again expressed his approval of the ASSOCIATION'S activities in behalf of an adequate pharmaceutical service in the army, and asked that his office be informed as to our plans, and that the ASSOCIATION continue to maintain contacts with him until a satisfactory outcome could be brought about.

A few weeks ago, a conference was had with Surgeon General Patterson and his advisers. This meeting was attended by Dr. E. F. Kelly, Dr. Samuel L. Hilton and Robert L. Swain. The whole situation was surveyed and brought up-to-date. The Surgeon General reaffirmed his previously expressed views, and again expressed approval of our activities.

It is deeply regretted by this committee that our objective is still so indefinite so far as realization is concerned. However, in view of the financial crisis which has faced the Federal Government, and in view also of the reduction made in the personnel of the various departments of the Government, including the Medical Department of the Army, this committee has not seen fit to take any aggressive stand during the past year. This position seemed the only sound one in face of the peculiar conditions existing, but was not finally decided upon until prominent members of both houses of Congress had expressed the belief that our cause would be put in a false light, and perhaps greatly injured, if any plan was adopted which might be misunderstood as unfriendly to the Administration's retrenchment program. For these reasons, the committee has largely marked time during the past year, and has deferred to those considerations which seemed to point out the dangers of any other course.

In conclusion, the retiring committee strongly recommends that the AMERICAN PHARMACEUTICAL ASSOCIATION continue a Committee on Pharmacy Corps in the United States Army; that the committee be instructed to continue its contacts with the Surgeon General; and that it be authorized to adopt such other plans as will best serve to bring about an adequate and thoroughly satisfactory pharmaceutical service in the United States Army.

ROBERT L. SWAIN, *Chairman.*

Secretary Kelly hoped that interest would not be lost in this important movement, because of present conditions. He stated that commissions for pharmacists in Public Health Service had worked out very satisfactorily, and that it was equally important to have pharmacists commissioned in the Army.

Chairman Slocum thanked Dr. Swain; the report was accepted.

The report on the U. S. Pharmacopœia was called for. There was no report at this time.

Secretary Kelly reported progress for the Committee on the Study of Pharmacy. "The Council on Pharmaceutical Education has been organized and is functioning," he said. This body made a report to the Council; it is taking over part of the work which the Committee on the Study of Pharmacy was to cover.

Chairman Hugo H. Schaefer presented the report of the Committee on Tolerances. President Philip spoke of the importance of this work. The report was accepted. It follows:

REPORT OF THE COMMITTEE ON TOLERANCES.

Your Committee on Tolerances consisting of Messers. Hilton, Swain and myself soon after its appointment last November found that the problem confronting them was a huge one. Each of the great number of operations involved in compounding prescriptions requires a separate study in order to determine what constitutes a reasonable tolerance. The chief factors to be studied are:

(*a*) Moisture and allowable impurities in chemicals.
(*b*) Decomposition and deterioration.
(*c*) Unavoidable errors in the weight of individual powders, pills or capsules.
(*d*) Unavoidable losses due to a portion of the prescription ingredients remaining in the mortar or adhering to utensils.
(*e*) Unavoidable errors in weighing and measuring.

The third of these problems is the one with which your Committee has been most active. The Boards of Pharmacy of a number of States have agreed to include certain suggested simple powder prescriptions in their practical examinations and to forward the finished products to members of our Committee who will check the weights and determine the differences in weights of the individual powders. The same prescription will also be compounded in a large number of pharmacies throughout the country and checked by our Committee.

At the suggestion of Dr. E. N. Gathercoal, *Chairman* of the N. F. Committee, Drs. Swain, Kelly, Krantz and Briggs have been appointed as a Sub-Committee to develop tolerances for certain capsules which may be included in the new N. F. and at the same time consider tolerances for capsules compounded in regular prescription work. The data obtained along these lines is not, however, considered sufficiently extensive as yet for publication or for warranting definite recommendations. Your Chairman is also tabulating the results of the analyses of thousands of prescriptions collected by Board of Pharmacy Inspectors and analyzed by him.

On May 1, 1933, your Committee had a conference in Washington with Dr. W. G. Campbell, Chief of the Bureau of Food and Drug Administration, U. S. Department of Agriculture. Dr. Campbell showed great interest in the work and objects of our Committee and offered his full coöperation.

During May a news Bulletin was prepared by our Committee on the general subject of Prescription Tolerances and copies were sent by Secretary Kelly to pharmaceutical publications, to the presidents and secretaries of State Pharmaceutical Associations and to the secretaries of Boards of Pharmacy. A number of replies were received showing a considerable interest in the subject.

As stated earlier in this report the subject is a huge one and the surface has only been scratched. A wide sphere of coöperation must be sought and obtained in order to collect the material for study.

S. L. HILTON,
ROBERT L. SWAIN,
HUGO H. SCHAEFER, *Chairman.*

The report of the Chairman of the Pharmaceutical Syllabus, owing to the absence of Chairman J. G. Beard, was read by H. M. Burlage. After discussion the report was received and referred to the American Council on Pharmaceutical Education. It will be printed under "Committee Reports" in a later issue of the JOURNAL.

The report of the Committee on William Procter, Jr. Memorial Fund was read by Secretary Kelly, who gave a brief history of the Fund and the recent considerations. The statue will be placed in Memorial Hall of the Headquarters Building. It is not planned to have any other statues or pictures in the Hall at present. The report was accepted; it follows:

REPORT OF COMMITTEE ON THE WILLIAM PROCTER, JR. MEMORIAL FUND.

The Committee on the William Procter, Jr. Memorial Fund is pleased to report that its chairman had a recent interview with the architect of the AMERICAN PHARMACEUTICAL ASSOCIATION Headquarters Building in Washington, at which the site for the proposed memorial was agreed upon. Because of the present background and perspective, some changes must be made in the model that had been previously approved by the Committee, and the sculptor has been requested to submit another model, subject to the approval of this committee and the architect.

The necessary details are now being assembled for the erection of a life-size bronze figure of The Father of American Pharmacy, on a four-foot marble pedestal which will comport with the tones of the entrance hall to the Headquarters Building.

This Committee appreciates the indulgence of the AMERICAN PHARMACEUTICAL ASSOCIATION in the unavoidable delays to complete its work and we are confident that the present proposition will be more satisfactory to our membership than was the original plan to place the detached monument in another section of Washington.

Respectfully submitted,
JAMES E. HANCOCK, *Chairman*

COMMITTEE ON INTERNATIONAL PHARMACEUTICAL NOMENCLATURE.

Chairman A. G. DuMez reported progress in the unification of international pharmaceutical nomenclature. He stated that each Pharmacopœia as it appears shows a decided step toward a uniform system of nomenclature. He referred to the nomenclature of the last edition of the Danish Pharmacopœia which corresponds very closely to that of the U. S. P. At the Brussels Conference held in 1925, the United States and Great Britain had a great deal to do with the adoption of principles governing nomenclature and this he thought influenced the nomenclature in the revision of the various pharmacopœias.

Chairman Slocum stated that if there was no objection the report would be received; it was so ordered.

The report of the Committee on Coöperative Publicity was called for. Secretary Kelly responded by saying that the activities of the Bureau had been temporarily discontinued. It is kept on the roll to become active when this work is again taken up. He, therefore, reported progress for the Committee.

The report of the Committee on Prerequisite Legislation was called for. In the absence of Chairman Jordan, Secretary Kelly reported that the Committee was coöperating whenever possible. The number of states now having prerequisite legislation is about forty and it is hoped that in the next few years all states will have adopted prerequisite legislation. He referred to Georgia as one of the states that recently has provided a full prerequisite law. The report was accepted and made a record.

Secretary Kelly presented the report of Chairman F. E. Stewart, of the Committee on Patents and Trade Marks. He referred to the work of Dr. Stewart over a period of many years and moved that the report be received for publication.

E. G. Eberle seconded the motion and asked to be permitted to include an expression of thanks for the long service that Dr. Stewart has rendered in this capacity. The Secretary desired to include this in his motion, but had left this to Mr. Eberle, because of his long acquaintanceship with Dr. Stewart; the report was accepted, and a vote of thanks was tendered to Dr. Stewart. (The report will be printed under "Committee Reports" in this or a later issue of the JOURNAL.)

The report of the Committee on Local Branches was presented and read by the Chairman, C. Leonard O'Connell. It was received and accepted. The report follows:

REPORT OF COMMITTEE ON LOCAL BRANCHES.

In spite of the unfavorable economic situation, the various local branches throughout the country functioned unfailingly. The programs were varied and exhibited in the main the ideal upon which the ASSOCIATION was founded, that is, that in the proceedings of the ASSOCIATION there is a place for every legitimate activity of pharmacy.

The Committee would strongly urge the establishment of a local branch wherever conditions warrant and this Committee and Secretary Kelly will aid in the establishment of them in every possible way.

The report of the Committee on Membership was called for.

REPORT OF THE COMMITTEE ON MEMBERSHIP.

Secretary Kelly stated that the Committee felt that during this year it would be unwise and probably unprofitable to undertake very aggressive work by the Committee on Membership. In his report as Secretary he had given the status of membership at the present time which, although not as satisfactory as might be wished for, he felt that the ASSOCIATION had reason to be thankful for the showing.

President Philip stated that he had hoped for an increase in membership, but that after due consideration it was not deemed advisable to make a special effort to secure membership, as this might interfere with state association membership, and the A. PH. A. seeks in every possible way to work with state associations. He thought that the time was coming when the plan of the American Medical Association would be made effective, having a membership which would apply to local and state associations and the national bodies.

Chairman Slocum stated that he had sent out letters to state association presidents and secretaries asking their support in increasing the membership of the A. PH. A. In his opinion all presidents and secretaries of state associations should be members of the A. PH. A., and, in carrying out his view, he had brought the President of the Iowa Association with him. He hoped that the secretaries would give more attention to the securing of members in their respective states.

Secretary Kelly stated that President-Elect Swain has aggressive plans which he hopes to make effective during his year of office.

Chairman Slocum stated that it was necessary for Mr. Hankins, who was named Chairman of the Committee on Resolutions, to return home, and Dr. Fischelis had kindly consented to act as Chairman of that Committee and, because of the change, the Committee was not prepared to report at this session.

Dr. James C. Munch reported for the Committee on Physiological Testing and elaborated on the report which follows.

REPORT OF COMMITTEE ON PHARMACOLOGY AND BIOASSAYS.

The bioassay of two samples of Tincture of Digitalis "A" and "B" by the U. S. P. X one-hour frog method was continued during last year. At the time of manufacture a portion of Tincture "A" was diluted with sufficient 70 per cent alcohol to make it 70 per cent of the original potency and labeled Tincture "B." These tinctures were bottled in amber, blue and colorless flint one-ounce bottles and in amber four-ounce bottles and stored at room temperature. Reassays have been made from time to time to determine the change in potency.

It was hoped that the assays made in February 1933, when these tinctures were four years old, might suffice to close this investigation. However, the results obtained during this year suggest the advisability of continuing this investigation for one year further, and making assays during the month of February 1934, by all collaborators. It is desired that assays be made by the one-hour frog method: also by the four-hour frog method and certain other methods to which the collaborators are accustomed.

Clinical investigations of these tinctures are being continued and will be reported next year.

General progress has been made in the collection of information and photographs, to serve as the basis of compilation of a "Who's Who in Bioassays."

Individual members of this committee have assisted in coöperative investigations relating to U. S. P. and N. F. revisions.

(Signed) E. E. SWANSON,
L. W. ROWE,
JAMES C. MUNCH, *Chairman.*

Chairman Munch commented on the report and explained the work which had been carried on during the year. He stated Dr. Wolf, professor of Cardiology in Temple University, had become interested and was making tests of this material on his patients; that is, on those requiring digitalis clinically.

The Chairman restated that these materials at the time they were prepared were placed in 1-ounce bottles and 4-ounce bottles. The bottles used each time for testing had not been previously opened. If these bottles had been previously opened, it is quite possible the deteriora-

tion would have been greater than observed. (The loss in potency after 4 years, of Tincture A, was about 20 per cent; Tincture B is now about 80 per cent—about the same proportional activity as with the freshly prepared material.)

He stated further that another report was in progress, namely, that we should have a "Who's Who in Bioassays." The Committee has been in touch with various men in this field throughout the world, asking them for autographed photographs, a list of their publications and titles in order that these can be arranged in book form. He said further that if there is demand for this work it can be printed in the JOURNAL, that the Committee will have something that can be placed on file in the American Institute of Pharmacy, as a more-or-less permanent memorial of "Who's Who in Bioassays." The Committee expected to work along the same lines during the coming year.

E. V. Lynn moved that the report be received.

H. V. Arny asked whether consideration had been given to the effect of light in the keeping qualities of digitalis preparations.

Chairman Munch replied that the bulk of the material was stored in a dark room, that thirty gallons of the original was still unopened in five-gallon bottles and is being kept at room temperature in wood boxes. It is hoped to assay these samples this year. There seems to be no consistent difference in deterioration on account of the glass.

H. V. Arny said that in his opinion too many of the previous papers had been based on preparations under abnormal conditions. A motion to receive the report was seconded and carried.

Dr. C. Leonard O'Connell introduced Mr. Lee of the Student Branch of the University of Pittsburgh.

Chairman Slocum asked for further reports.

Secretary Kelly stated that a number of the sections had reported on the transactions and these were accepted. They are printed on page 1056—Final Session.

He said that he was one of three delegates for the National Drug Trade Conference, but Dr. Hilton and he were of the opinion that no report was necessary at this time.

The following reports were presented and accepted: on Horticultural Nomenclature, and on Weights and Measures; they follow:

REPORT OF THE COMMITTEE ON HORTICULTURAL NOMENCLATURE.

During the past year we have not been called upon by the Committee on Revision of "Standardized Plant Names" for additional assistance in the revision of the second edition of that work. Your Chairman has been in communication with Prof. Kelsey, Secretary of the American Joint Committee in regard to the present status of the revision. Under date of June 13th, Secretary Kelsey sent your Chairman the following reply:

"It had been hoped to get 'Standardized Plant Names,' new edition, out by 1933 but I doubt if it will be ready before 1934 or possibly 1935. A great amount of work has been done particularly on certain lists of forage and grazing plants of the West. As you perhaps know 'Standardized Plant Names' has been adopted by the United States Government Printer and is coming into more and more universal use all the time. I believe the time has come for us to adopt the international code as a basis of our botanical names but of course this would make very little difference in the make-up as perhaps only 50 or 100 names could come under consideration and be different from what we already have, maybe not as many as this. You may be interested in knowing that it now seems probable that there will be nearly 15,000 or 20,000 additions to the name list in the new edition. Probably in the fall we will have a meeting of the general committee and outline how it is to be finally done."

In an earlier letter Secretary Kelsey stated that as soon as the galley proofs came from the press this committee would be asked to critically read them and make suggestions. We are thus assured of an opportunity to extend the usefulness of the coming edition to the drug industry.

(Signed) C. W. BALLARD,
E. N. GATHERCOAL,
H. W. YOUNGKEN, *Chairman*.

REPORT OF COMMITTEE ON WEIGHTS AND MEASURES.

Very little activity of a National character, concerning the Metric System, has taken place during the last year.

The Metric Association approved the following joint Resolution at their meeting held in Atlantic City, December 29, 1932:

> WHEREAS the United States yard is about ten per cent shorter than the International meter (or metric yard); and
>
> WHEREAS the United States liquid quart is about five per cent less than the International liter (or metric quart); and
>
> WHEREAS the United States avoirdupois pound is about ten per cent less than five hundred grams (or the metric pound); and
>
> WHEREAS the International meter, liter and gram have been legalized by Congress in 1866 for use in the United States:
>
> *Therefore, be it resolved and enacted* by the Senate and House of Representatives of the United States of America in Congress assembled that on and after the first day of January 1934, the term "Metric Yard" be recognized as identical with and usable as a substitute for the International meter by all Departments of the United States Government, the metric quart for the International liter and the metric pound for five hundred grams.

The committee decided not to present these resolutions to the House of Representatives due to political adjustments, that were taking place in Washington, also due to the economic stress and much legislation which the Government had to deal with at the time.

At the coming annual meeting in Cambridge, the committee plans to present new resolutions for approval, then to an early session of the House of Representatives.

We, as pharmacists, are, in one way, in a better position to carry on an individual educational program through our teaching of the system in our Colleges of Pharmacy, thus presenting its advantages to thousands who would otherwise have no knowledge of, or practice with it. If it could be presented to the medical students as thoroughly as it is to the pharmacy students and its advantages realized by them, it would be a step toward more general use by the physician.

LEON A. THOMPSON, *Chairman*.

(Other reports will be printed with these minutes or under Committee Reports in a succeeding issue of the JOURNAL. The large number of reports and the extent of the minutes make it necessary to defer some of these reports to a succeeding issue.)

Chairman Fischelis stated that a meeting of the Committee on Resolutions would be held immediately after the conclusion of this session of the House of Delegates.

Secretary Kelly called attention to the interest of the A. PH. A. in State associations. He stated that State associations can benefit by the work of this organization. Incidentally he referred to the roster of the ASSOCIATION, which had been helpful to State officers, and should be kept up-to-date.

Mrs. Philip referred to the time of meeting of State associations and the meeting of the A. PH. A. at a later date.

Chairman Slocum called the attention of the delegates to the fact that the reports of the various committees of the ASSOCIATION had been submitted to the House not only to secure action upon them, but also to inform the delegates of the wide range of work for pharmacy carried on by the ASSOCIATION. Some of these might appear of little direct advantage to practicing pharmacists at this time; they were fundamental in character and the helpful results would become apparent.

Chairman Slocum stated that the Final Session of the House of Delegates would be held at 7:30 P.M. and he asked for promptness as the General Session of the ASSOCIATION would convene at 8:30 P.M.—the report of the Committee on Resolutions would be presented at the Final Session.

On motion duly seconded the Third Session of the House of Delegates was adjourned.

FINAL SESSION.

The Fourth Session of the House of Delegates was convened at 7:40 P.M., by Chairman Slocum.

The minutes of the Third Session of the House of Delegates were read and approved.

The following reports were read and approved: The Conference of Pharmaceutical Association Secretaries, by Charles J. Clayton; Conference of Law Enforcement Officials, by M. N. Ford; Section on Commercial Interests, by Russell B. Rothrock; Scientific Section by L. W. Rowe; Section on Practical Pharmacy and Dispensing, by I. A. Becker; Section on Historical Pharmacy, by C. O. Lee. The reports follow:

Conference of Pharmaceutical Association Secretaries: The reports of President J. L. Hayman and Secretary-Treasurer Carl G. A. Harring were adopted.

Motions to contribute $50.00 to the Pharmacy Exhibit at the Century of Progress and $100.00 to the Pharmacy Building in Washington, before January 1, 1934, were adopted.

Motions to arrange for a dinner in time for next year's program, and to arrange for a joint session with the Section on Education and Legislation and Law Enforcement Officials were adopted.

All topics of the program were discussed; also, Resolutions asking Executive State Committees to instruct secretaries to prepare resolutions on topical questions, and resolution of thanks to outgoing officers.

The following officers were elected: *President*, R. C. Wilson, Georgia; *First Vice-President*, F. V. McCullough, Indiana; *Second Vice-President*, R. Weaver, Oklahoma. *Executive Committee:* J. L. Hayman, West Virginia; J. J. Gill, Rhode Island; Roy C. Reese, Kansas; W. E. Bingham, Alabama; *Delegate to the House of Delegates*, William B. Day, Illinois.

Conference of Law Enforcement Officials: The conference held two very interesting sessions as well as a joint session with the Section of Education and Legislation and the Pharmaceutical Association Secretaries.

The program was carried out as arranged. A committee was appointed to study ways and means of providing more adequately for the protection of the public in safeguarding all functions that have to do with prescription service from the time a prescription is written for a patient to the ultimate delivery of the finished medicine, so as to assure a continuity of adequate supervision in this important health function.

A committee was appointed to draft a suitable definition for Patent and for Proprietary Medicines.

The following officers were elected: *Chairman*, R. L. Swain, Maryland; *Secretary and Treasurer*, M. N. Ford, Ohio; *Delegate to the House of Delegates*, Fred Schaefer, New York.

Section on Commercial Interests.—The Section held two sessions; many interesting papers were read and discussed. The following officers were elected: *Chairman*, John A. J. Funk, Indiana; *Vice-Chairman*, Henry Brown, Pennsylvania; *Secretary*, W. J. Rodman, New Jersey; *Delegate to the House of Delegates*, R. B. Rothrock, Indiana.

Scientific Section.—An extra session, granted by the Council, was very helpful. In the three sessions and the joint session with the *Section on Practical Pharmacy and Dispensing*, 53 papers were presented and about 40 papers were read by title.

The following officers were elected: *Chairman*, F. E. Bibbins, Indiana; *First Vice-Chairman*, E. V. Lynn, Washington; *Second Vice-Chairman*, H. M. Burlage, North Carolina; *Delegate to the House of Delegates*, W. J. Husa, Florida.

Section on Practical Pharmacy and Dispensing.—The Section on Practical Pharmacy and Dispensing held two sessions. In the absence of Chairman W. Paul Briggs, Vice-Chairman Marvin J. Andrews presided. Fifteen papers were read by the authors, and nineteen were read by title. The papers evoked a lively discussion in many instances.

The following officers were elected: *Chairman*, Marvin J. Andrews, Maryland; *Vice-Chairman*, R. W. Clark, Wisconsin; *Secretary*, R. E. Terry, Illinois; *Delegate to the House of Delegates*, L. W. Rising, New Jersey.

Section on Historical Pharmacy.—Two sessions of the Section were held. Thirty-two titles for papers, in all, were submitted for this Section, many of which were accompanied by pictures and illustrations. A few were illustrated and presented with slides.

The material which has been presented is biographical, and historical, with respect to institutions, organizations, practices, apparatus, drugs and preparations.

A total of 25 papers were read, either in full, in part, or by title, including the report of Historian E. G. Eberle and the address of Chairman Louis Gershenfeld. The latter address contained several resolutions which have been considered in the usual way.

Much interest was displayed in the papers and comments upon them.

Upon motion of Historian Eberle, the Section directed that Secretary Kelly communicate the proper expressions of sympathy to the family of Professor H. G. Greenish and a similar letter to the British Pharmaceutical Society.

President Philip expressed appreciation of the work of the Section in a few words, at the Second Session.

The following officers were elected: *Chairman*, Louis Gershenfeld, Pennsylvania; *Secretary*, C. O. Lee, Indiana; *Historian*, Eugene G. Eberle, Maryland; *Delegate to House of Delegates*, J. T. Lloyd, Ohio.

Chairman R. P. Fischelis presented the report of the Committee on Resolutions. These resolutions were separately presented and discussed and on motion duly seconded were adopted. The resolutions were then adopted as a whole, and, as adopted, are printed in the JOURNAL for September, on pages 879–882.

Chairman Slocum stated that the final order of business was the installation of officers. He congratulated the Chairman-Elect, P. H. Costello, of North Dakota, and installed him. He replied that he esteemed the honor and spoke for the helpfulness of the ASSOCIATION for North Dakota pharmacists and expressed their appreciation.

Vice-President S. A. Williams was absent and his colleague, W. E. Bingham, spoke for him; the latter acting as proxy.

There being no further business, the Final Session of the House of Delegates was then regularly and in due form adjourned.

PHYSICIANS AND THE NRA.

A letter from Gen. T. S. Hammond, Executive Director, Blue Eagle Division of the National Recovery Administration, to the American Medical Association expresses his regret that recent editorials in the *Journal* have indicated "a misunderstanding of the National Recovery Administration's policy toward doctors and dentists." The headquarters personnel of the American Medical Association has studied the National Industrial Recovery Act ever since it was introduced in Congress. It has also studied the President's Reëmployment Agreement. The act is, by its terms, clearly limited to trades and industries. It is not applicable to the professions, except as they are integral parts of trades and industries, and the private practice of medicine does not come within that category. If Congress had intended the act to cover the professions, it easily could and presumably would have said so.—From an editorial in the *Journal A. M. A.*

Miss Esther Barney is constantly in charge of the Pharmacy Exhibit at the Century of Progress. She is alert, makes visitors welcome and sees that pharmacists register. Others, in charge of divisions of the exhibits know her because of her activity for pharmacy and because of her ability to look after visitors; she is conversant in several languages. It requires constant watchfulness to keep the exhibits intact. In his remarks, Chairman Christensen, before the General Session, referred to her ability in the discharge of her duties.

Prof. Otto Raubenheimer spoke on the history of pharmacy at the fifth annual exhibition of the St. Johns University College of Pharmacy, held annually in conjunction with the observance of National Pharmacy Week. Prof. Herbert Raubenheimer was in charge of the program.

An editorial of the *Pennsylvania Pharmacist* states that "every pharmacist should subscribe to and read the JOURNAL A. PH. A., it is as important to the pharmacist as the *Journal A. M. A.* is to the physician."

Dr. Thomas Hunt Morgan, Pasedena, Calif., former president of the National Academy of Sciences and of the American Association for the Advancement of Science, has been awarded the Nobel Prize for 1933.

ASSOCIATION BUSINESS

AD INTERIM BUSINESS OF THE COUNCIL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1933–1934.

Office of the Secretary, 10 West Chase St., Baltimore, Md.

October, 3, 1933.

LETTER NO. 2.

To the Members of the Council:

For the benefit of new members of the Council it is pointed out that motions made by mail in the interim between meetings of the Council require no second.

(*Motion No. 1*) *It is moved by Eberle that the minutes of the first meeting of the Council, 1933–1934, as presented in Council Letter No. 1, be approved.*

17. Use of Text of N. F. V. The following communication has been received from Chairman DuMez of the Committee on Publications:

> "I have looked into the request of the J. B. Lippincott Company for permission to use portions of the N. F. text in the preparation of a textbook on Materia Medica by Dr. Charles Solomon, of Brooklyn, N. Y., and see no good reason why permission should not be granted.
>
> "It appears from the portion of the manuscript submitted that the only use which will be made of the N. F. text is the quotation of titles and dosage. This should help to popularize the National Formulary among nurses for whom the textbook is intended. It is, therefore, recommended to the Council that permission be granted the J. B. Lippincott Company to use portions of the text of the National Formulary V in the preparation of a textbook on Materia Medica written by Dr. Charles Solomon, of Brooklyn, N. Y., and that a nominal fee of $5.00 be charged for this grant."

(*Motion No. 2*) *It is moved by DuMez that the J. B. Lippincott Company be given permission to use portions of the text of the National Formulary V in the preparation of a textbook written by Dr. Charles Solomon on Materia Medica, and at the usual charge of $5.*

18. Applicants for Membership. The following applications properly endorsed and accompanied by the first year's dues have been received.

No. 1, Barbara J. Barry, 1919 Vallejo St., San Francisco, Calif.; No. 2, N. N. Brakke, McVille, N. Dak.; No. 3, Roy L. Crouch, R. F. D. No. 2, Roanoke, Va.; No. 4, Charlotte I. DuBois, 37 Cathedral Ave., Garden City, N. Y.; No. 5, Jeanette B. Osofsky, 54 Pershing Ave., Elizabeth, N. J.; No. 6, Benjamin S. Paschalt, 1014 Am. Bank Bldg., Seattle, Wash.; No. 7, Frank C. Smolensky, 49 Durant Ave., Clifton, N. J.; No. 8, Albert F. Veeder, State Hospital, Rochester, N. Y.; No. 9, Herman S. Waller, 32 W. Randolph St., Chicago, Ill.

(*Motion No. 3*) *Vote on applications for membership in the American Pharmaceutical Association.*

E. F. KELLY, *Secretary.*

October 3, 1933.

LETTER NO. 3.

To the Members of the Council:

19. Transfer of Property between the U. S. A. and the Association as provided under Public Resolution No. 18, and the Agreement for the Occupancy of U. S. Reservation No. 332-B. It will be recalled that when the ASSOCIATION decided to locate the Headquarters Building in Washington, three lots, Nos. 3, 4 and 5, in Square 62, as shown on the plat attached, were purchased as a site and plans were made to erect the building thereon. The Commission of Fine Arts suggested, in order to provide a more suitable setting, that if the ASSOCIATION would purchase Lots 12, 13, 14, 15 on the west, and Lots 16, 17, 800, 801 and 802 on the east, so as to own the entire frontage, the Government would be requested to close Upper Water Street in this square in order that the Building could be located in proper relation to the plans for Constitution Avenue

and to give the ASSOCIATION the use of the Reservation between Water Street and Constitution Avenue as had been done for the National Academy of Science in the adjoining square. The ASSOCIATION purchased the property referred to, with the exception of Lot 18, which is still in negotiation, and had to purchase Lot 7 to obtain the others. In May 1932, Public Resolution No. 18 was passed by Congress and signed by the President, to complete the arrangement. Public Resolution No. 18, copy attached, was quoted in full on page 721 of the July 1932 issue of the JOURNAL. It provided for (1) the closing of Upper Water Street between 22nd and 23rd Streets and the transfer of this property to the Director of Public Buildings and Public Parks; (2) the transfer to the ASSOCIATION by the U. S. A., through the Director of Public Buildings and Public Parks, of such an area, adjacent to its property, as shall be agreed upon by the ASSOCIATION and the two Commissions named, to provide a proper setting for the Building; (3) the transfer to the U. S. A. by the ASSOCIATION of a strip of its property 17 feet in depth along 23rd Street for the widening of that street as an approach to the Lincoln Memorial. In the old section of Washington including Square 62, the beds of streets were dedicated and can be closed only by an act of Congress, when title to the area closed reverts to the United States.

In the meantime, it was agreed that the Building should be moved forward to conform with the general plans and be partly located on the bed of Water Street. After careful consideration it was agreed between the Commissions and the ASSOCIATION that the equivalent of the bed of Water Street should be transferred to the ASSOCIATION, in order to protect its Building and that the ASSOCIATION should be granted the occupancy of U. S. Reservation No. 332-B on the same terms and conditions as the Academy of Sciences had been granted the occupancy of U. S. Reservation No. 332-A. It was also agreed that in the transfer, the southern line of the bed of Water Street should be made parallel to Constitution Avenue.

It has not been possible to ask the Council for definite action on these transfers and occupancy earlier, as the necessary surveys had not been completed, and the deeds and agreements drawn.

Below are quoted in order named:

THE DEED FROM THE U. S. A. TO THE ASSOCIATION.

THIS DEED.

MADE this —— day of October in the year ONE THOUSAND NINE HUNDRED AND THIRTY-THREE, by and between the United States of America, acting in this behalf by ARNO B. CAMMERER, Director of the Office of National Parks, Buildings and Reservations in the Department of the Interior (successor to the Director of Public Buildings and Public Parks of the National Capital, in accordance with Public No. 2, approved March 20, 1933, and Executive Order June 10, 1933), acting herein in pursuance of Public Resolution No. 18, 72nd Congress of the United States of America, approved May 13, 1932, and approved by the Secretary of the Interior, party of the first part, and AMERICAN PHARMACEUTICAL ASSOCIATION, a body corporate duly incorporated under the laws of the District of Columbia, party of the second part.

WITNESSETH, That in consideration of the transfer to the United States of America of title to a strip of ground seventeen (17) feet in depth along 23rd Street, parts of original Lots 7, 12, 13, 14 and 15 in Square 62, by the AMERICAN PHARMACEUTICAL ASSOCIATION, and other considerations which are a great benefit to the orderly development of the National Capital, the said party of the first part does hereby grant unto the said party of the second part all of the title of the UNITED STATES OF AMERICA in and to the following described land and premises situate in the District of Columbia:

Part of Upper Water Street closed, and part of U. S. Reservation No. 332-B, all described as one parcel as follows:

Beginning for the same at a point in the southerly line of Lot 12, Square 62, distant 17.57 feet easterly from the southwest corner of said Lot 12, and running thence with the northerly line of Upper Water Street closed, easterly 266.11 feet to the west line of 22nd Street; thence with said west line, south 49.01 feet; thence leaving said 22nd Street and running west 257.430 feet; thence north and parallel to 23rd Street, 116.39 feet to the point of beginning, containing 21288.80 square feet, all as shown on plat of computation in Survey Book 103, page 16, Surveyor's Office, D. C.

And the grantee herein agrees for itself, its successors and assigns to the provisions contained in the aforesaid Public Resolution No. 18, 72nd Congress, that (1) the Commissioners of the District of Columbia shall be allowed and permitted to enter upon any part of the herein described land at all times for the purpose of maintaining and/or repairing all existing sewers and sewer appurtenances; and (2) that the use of any building or buildings erected or caused to be erected on any land within Square 62 or the herein described land shall be limited to organizations and institutions serving American pharmacy on a nonprofit basis;

And the grantee herein further convenants and agrees for itself, its successors and assigns that no building or structure other than that now erected by the grantee on land within Square 62 or on the land described herein shall ever be erected or caused to be erected nor shall any additions, alterations or changes be made or caused to be made to said building now erected by the grantee on any land within Square 62 or the herein described land, without first obtaining the approval thereto in writing of the National Capital Park and Planning Commission and the National Commission of Fine Arts, or their successors, acting for and on behalf of the United States of America.

The covenants and conditions contained herein are to be taken as running with the land conveyed and described herein and form a part of the consideration for the conveyance herein.

And the said parties of the first part covenant that they will execute such further assurances of said title of the United States of America as may be requisite.

WITNESS his hand and seal the day and year hereinbefore written.

APPROVED

———————————— (SEAL)
Director of the Office of National Parks, Buildings and Reservations in the Department of the Interior.

————————————
Secretary of the Interior
In the presence of:

————————————

DISTRICT OF COLUMBIA: To wit:

I, ————————————, a Notary Public in and for the said District of Columbia, do hereby certify that ARNO B. CAMMERER, Director of the Office of National Parks, Buildings and Reservations in the Department of the Interior, party to a certain Deed bearing date on the ——day of October, A. D. 1933, and hereto annexed, personally appeared before me in the said District of Columbia, the said ARNO B. CAMMERER, being personally well known to me as the person who executed the said Deed, and acknowledged the same to be his act and deed.

GIVEN under my hand and official seal, this ——day of ————A. D. 1933.

————————————
Notary Public

THE DEED FROM THE ASSOCIATION TO THE U. S. A.

THIS DEED.

MADE this ——day of SEPTEMBER, in the year one thousand nine hundred and thirty-three, by and between AMERICAN PHARMACEUTICAL ASSOCIATION, a body corporate duly incorporated under the laws of the District of Columbia, acting herein pursuant to a resolution of its Council (a copy of which resolution is attached hereto and made a part hereof), party hereto of the first part, and UNITED STATES OF AMERICA, party of the second part:

WITNESSETH, that the said party of the first part, for and in consideration of ONE DOLLAR AND OTHER CONSIDERATIONS, does hereby grant unto the party of the second part, in fee simple, the following described land and premises, with the improvements, easements and appurtenances thereunto belonging, situate and being in the County of Washington, in the District of Columbia, namely:

Part of Original Lot Seven (7) in Square Sixty-two (62), and parts of Lots Twelve (12), Thirteen (13), Fourteen (14) and Fifteen (15) in Square Sixty-two (62), as shown on plat recorded in Liber Eighteen (18), folio Fifty-six (56) in the Office of the Surveyor for the District of Columbia; all described in one parcel as follows:

Beginning for the same in the east line of 23rd Street at the southwest corner of Lot Twelve (12) in Square Sixty-two (62) and running thence with the east line of 23rd Street, north One hundred and twenty and seventeen one-hundredths (120.17) feet to the northwest corner of Original Lot Seven (7) in Square Sixty-two (62); thence with the north line of said Lot Seven (7), east seventeen (17) feet; thence parallel to the east line of 23rd Street, south One hundred and twenty-four and sixty-two one-hundredths (124.62) feet to the southerly line of Lot Twelve (12) in Square Sixty-two (62); thence with said southerly line, northwesterly Seventeen and fifty-seven one hundredths (17.57) feet to the point of beginning; containing Two thousand and eighty and seventy-two one-hundredths (2080.72) square feet; all as shown on plat of computation by the Surveyor of the District of Columbia filed in Survey Book 103, at page 16 in that office.

AND the said party of the first part covenants that it will warrant generally the property hereby conveyed and that it will execute such further assurances of said land as may be requisite.

IN TESTIMONY WHEREOF, on the day and year first hereinabove written, the said AMERICAN PHARMACEUTICAL ASSOCIATION has caused these presents to be signed with its Corporate name by————, its President and by————————, its Secretary; attested by————————, its ————————, and its Corporate Seal to be hereunto affixed, and does hereby constitute and appoint————————, its President, and————————, its Secretary, its true and lawful Attorneys in Fact for it and in its name to appear before any officer authorized by law to take and certify acknowledgments of conveyances of land in the District of Columbia, and then and there to acknowledge and deliver these presents as its act and deed

AMERICAN PHARMACEUTICAL ASSOCIATION
By:

_____

President.

_____

Secretary.

Attest: ————————
( )

I hereby certify that the aforegoing Deed was executed and delivered pursuant to and in strict conformity with the provisions of a Resolution of the Council of AMERICAN PHARMACEUTICAL ASSOCIATION (a copy of which resolution is attached hereto and made a part hereof), passed at a regular meeting held on the ——day of————, 1933.

_____

Secretary.

DISTRICT OF COLUMBIA, To wit:

I, ————————, a Notary Public in and for the District of Columbia, do hereby certify that————————and————————, who are personally well known to me to be the persons named as Attorneys in Fact in the aforegoing and annexed Deed dated the ——day of SEPTEMBER, A. D. 1933, to acknowledge the same, personally appeared before me in the District of Columbia aforesaid, and as Attorneys in Fact as aforesaid, and by virtue of the power and authority in them vested by the aforesaid Deed, acknowledged the same to be the act and deed of AMERICAN PHARMACEUTICAL ASSOCIATION, the Corporation grantor therein, and delivered the same as such.

GIVEN under my hand and official seal, this ——day of September, A. D. 1933.

_____

Notary Public.

THE AGREEMENT FOR THE OCCUPANCY OF THE U. S. RESERVATION NO. 332-B; AND FOR COMPARISON AND RECORD.

PERMIT TO AMERICAN PHARMACEUTICAL ASSOCIATION.

WHEREAS, by Section 2 of an Act of Congress approved July 1, 1898 (30 Stats., page 570), as amended by Act approved April 14, 1906 (34 Stats. Part 1, pages 112, 113), Public No. 2, approved March 20, 1933, and Executive Order June 10, 1933, the Director of National Parks, Buildings and Reservations is authorized temporarily to turn over the care of certain parking

spaces in the District of Columbia to private owners of adjoining lands under such regulations as he may prescribe, and with the condition that the said private owners shall pay special assessments for improvements contiguous to such parking, under the same regulations as are or may be prescribed for private lands;

NOW, THEREFORE, This is to certify that the care of the United States parking space known as Reservation No. 332-B adjoining the south side of Square 62, and located between 22nd and 23rd Streets and Constitution Avenue, Northwest, in the District of Columbia, and shown in green on the map of the locality attached to this instrument and made a part hereof, is hereby temporarily turned over to the AMERICAN PHARMACEUTICAL ASSOCIATION, the owner of adjoining lands in Square 62, under the provisions of the Act of Congress mentioned subject to the following regulations in addition to the condition contained in the said Act of July 1, 1898:

1. That the said AMERICAN PHARMACEUTICAL ASSOCIATION is hereby granted permission temporarily to improve the said parking space, Reservation No. 332-B, with walks and shrubbery and to construct a formal approach to its building over the said space all as shown on the map; and the said AMERICAN PHARMACEUTICAL ASSOCIATION shall at all times maintain the ground in a neat and creditable condition, to the satisfaction of the said Director of National Parks, Buildings and Reservations.

2. That the privileges herein granted are revocable at will by the Director of National Parks, Buildings and Reservations, and whenever notified by the said Director, or his authorized representative, the said AMERICAN PHARMACEUTICAL ASSOCIATION shall immediately remove the walks, shrubbery and other improvements from the said parking space and put it in as good condition for use by the United States as it is at this date.

3. That if the AMERICAN PHARMACEUTICAL ASSOCIATION at any time ceases to be the owner and occupant of its present building site in the said Square numbered 62, the privileges herein granted shall automatically terminate.

WITNESS my hand this 26th day of September 1933.

(s) Arno B. Cammerer
Director, National Parks, Buildings and Reservations.

The care of the U. S. parking space south of Square 62, Reservation No. 332-B, and located between 22nd and 23rd Streets and Constitution Avenue, Northwest, is hereby accepted subject to above regulations and to the conditions contained in the Act of July 1, 1898.

Dated at Washington, D. C., this 26th day of September 1933.

AMERICAN PHARMACEUTICAL ASSOCIATION
BY: (s) Robert L. Swain, *President*
(s) E. F. Kelly, *Secy.*

Owner and Occupant in Square 62, Washington, D. C.

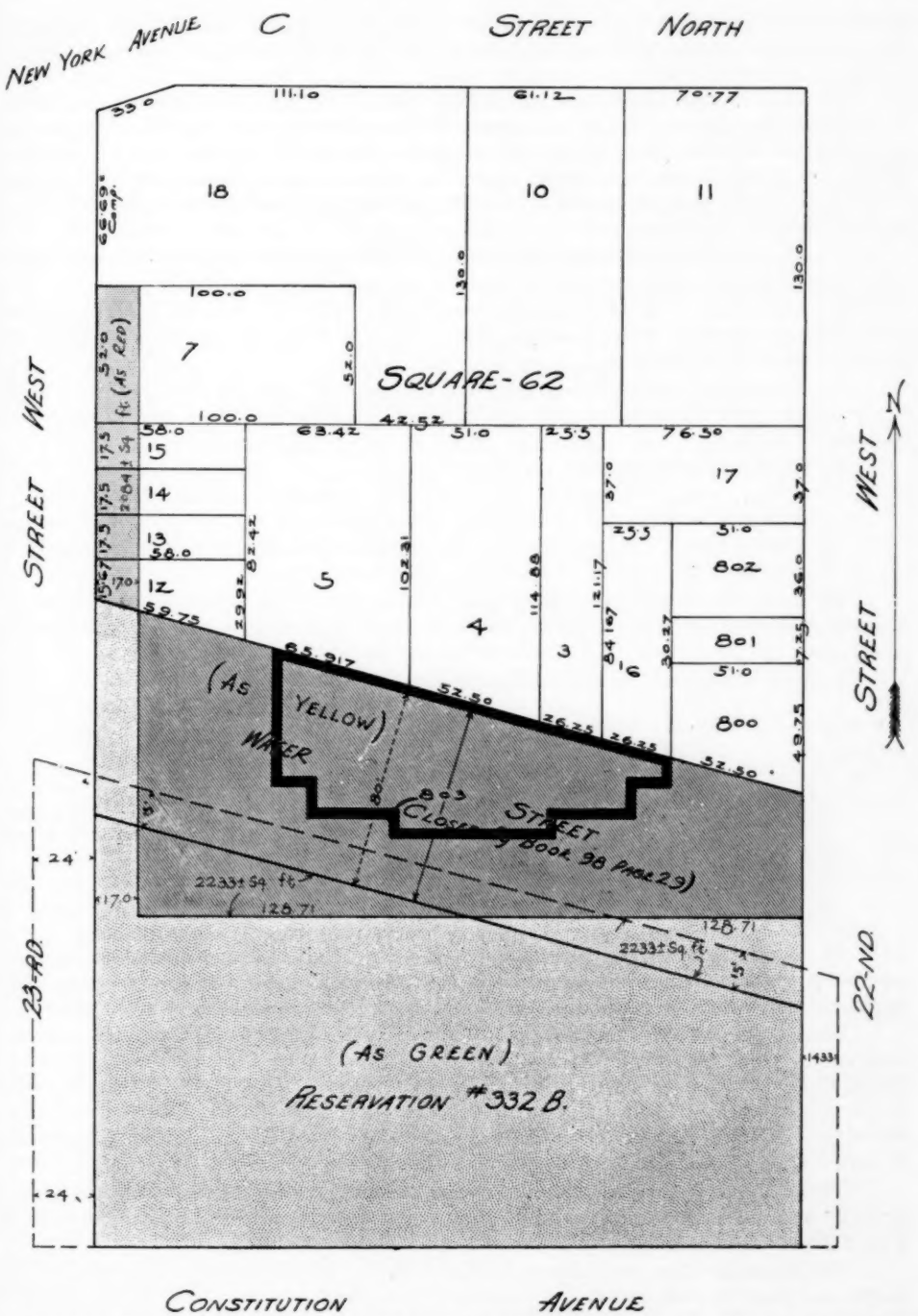
(s) H. P. Caemmerer

Witness.

THE AGREEMENT FOR THE OCCUPANCY OF U. S. RESERVATION NO. 332-A.

WHEREAS, by Section 2 of the Act of Congress approved July 1, 1898 (30 Stats., page 570), as amended by Act approved April 14, 1906 (34 Stats. Part 1, pages 112, 113), the Chief of Engineers is authorized temporarily to turn over the care of certain parking spaces in the District of Columbia to private owners of adjoining lands under such regulations as he may prescribe, and with the condition that the said private owners shall pay special assessments for improvements contiguous to such parking, under the same regulations as are or may be prescribed for private lands:

NOW, THEREFORE, This is to certify that the care of the United States parking space adjoining the south side of Square 88, and located between 21st, 22nd and B Streets, Northwest, in the District of Columbia, and shown in green on the map of the locality attached to this instrument, and made a part hereof, is hereby temporarily turned over to the National Academy of



Drawing—Scale 1 inch = 30 feet. This plate approximately 1 inch = 72 feet. Plate shows Land Transfers between U. S. A. and AMERICAN PHARMACEUTICAL ASSOCIATION in accordance with and under the provisions of Public Resolution No. 18, 72nd Congress, approved May 13, 1932.

(AS RED) Property transferred to United States

(AS YELLOW) Property transferred to the ASSOCIATION

(AS GREEN) U. S. Reservation No. 332-B.

Sciences of Washington, D. C., the owner of Square 88, under the provisions of the Act of Congress mentioned subject to the following regulations in addition to the condition contained in the said Act of July 1, 1898.

1. That the said NATIONAL ACADEMY OF SCIENCES is hereby granted permission to temporarily improve the said parking space with walks and shrubbery, and to construct a low wall along the south boundary line of said space all as shown on the map; and the said NATIONAL ACADEMY OF SCIENCES shall at all times maintain the ground in a neat and creditable condition, to the satisfaction of the Officer of the U. S. Army in charge of Public Buildings and Grounds.

2. That the privileges herein granted are revocable at will by the Chief of Engineers, and whenever notified by the Chief of Engineers, or his authorized representative, the said NATIONAL ACADEMY OF SCIENCES shall immediately remove the wall, walks, shrubbery and other improvements from the said parking space and put it in as good condition for use by the United States as it is at this date.

3. That if the NATIONAL ACADEMY OF SCIENCES at any time ceases to be the owner and occupant of the said Square Numbered 88 the privileges herein granted shall automatically terminate.

WITNESS my hand this 5th day of January 1923.

(s) Lansing H. Beach

Major General, Chief of Engineers, U. S. Army.

The care of the U. S. parking space South of Square 88 and located between 21st, 22nd and B Streets, Northwest, is hereby accepted subject to above regulations and to the conditions contained in Act of July 1, 1898.

Dated at Washington, D. C., this Jan. 13, 1923.

National Academy of Sciences,
BY: (s) Charles D. Welcott,
President

Owner and Occupant of Square No. 88, Washington, D. C.

(s) Paul Brockett

Witness

On the attached plat, the property transferred to the U. S. A. is shown in red, the property transferred to the ASSOCIATION in yellow and U. S. Reservation No. 332-B is shown in green. The bed of Water Street is also shown on the plat and the correction of its southern line.

These deeds and agreement were prepared by representatives of the Government and are approved by them. They have been examined and approved by President Swain, Chairman Hilton, Chairman Dunning and Secretary Kelly, and titles will be searched and insured by the District Title Insurance Company as for the other property owned by the ASSOCIATION. If approved by the Council they will be promptly recorded and this will close all outstanding questions between the Government and the ASSOCIATION with respect to the site.

The Building is completed and ready for occupancy. The Government will proceed promptly with the widening and paving of Constitution Avenue and probably with the widening of 23rd Street. The widening of 22nd Street is still under consideration.

On September 15th, the National Capital Park and Planning Commission approved the grading and planting plan, including the approach steps, for the ASSOCIATION's property and for U. S. Reservation No. 332-B as prepared by Mr. A. F. Brinckerhoff with the coöperation of Architect Pope's office. Bids are being obtained on this work and it will be completed this fall except for part of the planting which may have to be carried over until early in the spring. Attached is copy of the Grading and Planting plan. (Not possible to reproduce for the JOURNAL.)

As soon as these questions are settled, the furniture and equipment will be contracted for.

Mr. Pope's office is coöperating in the selection of the furniture and equipment. It is expected that the Building will be occupied by January first and the lease in Baltimore terminated.

(*Motion No. 4*) *It is moved by S. L. Hilton, Chairman of the Council, that the transfer of properties to and from the United States in Square 62, N. W., Washington, D. C., as shown in the two deeds, herewith, and plat, copy of which is attached hereto, and that the agreement for occupancy of U. S. Reservation 332-B, herewith, be approved, and that the President and Secretary of the Association be hereby appointed attorneys in fact to sign any deeds, agreements and other papers necessary to complete the transfer of said properties and to accept the said agreement for occupancy.*

Dr. Dunning submitted the deeds and agreement to his attorney, Mr. Vernon Cook, of the firm of Cook and Markell, and below is quoted Mr. Cook's reply:

> "I have your letter of September 29th, and have examined the enclosures with reference to the matter of AMERICAN PHARMACEUTICAL ASSOCIATION and the United States Government. The papers are properly drawn to carry out the plan proposed. The deed from the ASSOCIATION to the Government conveys a narrow strip of land on 23rd Street, desired by the Government for the widening of that street. The deed from the United States to the ASSOCIATION conveys the bed of Water Street opposite your property and straightens the southern boundary. The permit granted the ASSOCIATION gives the use of reservation 332-B fronting on Constitution Avenue as an approach to the property of the ASSOCIATION.
>
> "You will note that this permit is 'revocable at will by the Director of National Parks, Buildings and Reservations.' This provision is the only thing in the plan which might be subject to criticism. I suppose, however, that as your ASSOCIATION is dealing with the Government you will have to submit to this provision and also assume that the right therein given the Government therein would not be exercised except for some good and substantial reason.
>
> "I think all of the papers are in proper legal form to carry out your plan. I enclose the papers under separate cover."

E. F. KELLY, *Secretary.*

THE RED CROSS.

Pharmacists have always given support to the Red Cross and will again do so, hoping for success of the efforts now being made.

The Red Cross is the first to respond when a calamity occurs, without red tape—the hungry are fed, clothes are supplied, when needed; the sick and injured are relieved. No other permanent organization can do as well when immediate work is to be done.

The Red Cross is conducting its annual membership campaign. The fee of one dollar is its main support, but unusual calls upon its resources render an additional sum necessary. Half of the sum collected is used locally, the other, nationally. We are certain pharmacists will respond and that it is hardly necessary to call special attention—the pharmacist always does his part in work of this kind.

Mrs. Fischelis, wife of our First Vice-President, **Dr. Robert P. Fischelis,** was appointed by Governor Moore of New Jersey as New Jersey's Goodwill Commissioner and brought greetings to President Dawes of A Century of Progress, and to Mayor Kelly. She was presented to the officials by Mayor Hague of Jersey City. As Miss Deer, Mrs. Fischelis graduated from St. Xavier's Academy in Kenwood (Chicago), and also from the Art Institute. The *Chicago American* of August 25th gave an interesting report of the occasion.

RHODE ISLAND COLLEGE OF PHARMACY AND ALLIED SCIENCES.

On October 2nd, Rhode Island College of Pharmacy participated in an NRA parade. A beautiful float symbolic of pharmacy, identified the College. The main theme attractively displayed, was a prescription signed by "Dr. Roosevelt" which was shown on each side of a prescription table and a registered pharmacist was in attendance. The prescription read:

New Deal
Confidence
Coöperation
Sig.—To be taken daily.

Officers and members of the faculty headed the division of the College, also students and alumni. Fully 300,000 persons viewed the line of march.

EDITORIAL NOTES

Because of Association Reports, which required many pages, publication of a number of papers and items in this Section had to be deferred.

RELEASE OF THE U. S. PHARMACOPŒIAL REFERENCE COD LIVER OIL OF KNOWN VITAMIN A AND D POTENCY.

BY E. FULLERTON COOK, CHAIRMAN.

The U. S. P. Vitamin Advisory Board has just released the "Reference Cod Liver Oil" of known Vitamin potency for use in the standardization of Cod Liver Oil and other products containing Vitamins A and D. This "Reference Oil" has been assayed through a coöperative program including fifteen vitamin laboratories in which the International Standards for Vitamin A and Vitamin D were used as a basis of comparison. The potency of this "Reference Oil" has therefore been established upon the basis of International Units and it is available for use in the standardization of all Vitamin A and Vitamin D products, both medicines and foods. The method of assay used in the determination of the potency of the "Reference Oil" is that proposed for adoption by "Interim Revision" for the U. S. P. X.

The original draft of the assay, as used by the laboratories participating in the preparation of this standard, is also available through the Chairman of the U. S. P. Committee of Revision. Within a short time this assay and the revised text for Cod Liver Oil to be established by "Interim Revision" will be officially announced. This Revision will establish the new Vitamin A and Vitamin D potency for official Cod Liver Oil.

The Standard "Reference Oil," of known vitamin potency, is supplied in 30-cc. packages. One lot of the Oil has been assayed for its Vitamin A potency, another lot for its Vitamin D activity. A nominal charge of $2.50 will be made for each 30-cc. package. These may be secured in individual packages or in any larger number desired, by addressing the Chairman of the U. S. P. Committee of Revision at 43rd Street and Woodland Avenue, Philadelphia, Pa.

NO EAGLE NECESSARY ON PACKAGE.

Despite the assurance given to the drug and food trades by General Hugh S. Johnson that the Blue Eagle need not appear on packaged products, groups directing NRA work in various sections of the country are reported as insisting that such identification be utilized. Several instances of pressure brought to bear on manufacturers and retailers have been reported. In many cases the manufacturers are said to be preparing to put the Blue Eagle imprint on their packages rather than experience future difficulties with zealous town committees. However, even those manufacturers who are willing to go to the expense and trouble involved, are up against still another condition. They have on their own floors, in warehouses of wholesaler, or on the shelves of retailers, heavy stocks of merchandise which do not carry the "Blue Eagle." They are endeavoring to find a way for solving the problem, although, with General Johnson's assurance it seems unnecessary to mark the preparations.

"HOUSE PHARMACIES" PROHIBITED.

For decades, physicians in remote regions of Germany have been permitted, after a special examination, to conduct a so-called house pharmacy, in which they themselves were allowed to prepare the necessary medicines. This was a recognized exception to the pharmacy privilege. Now the Prussian ministry of the interior has ordered the cancellation of permits to conduct these house pharmacies. It is pointed out that transportation facilities have improved and that the reasons for house pharmacies seldom hold at present, as physicians can carry with them remedies needed in emergencies. It was explained that house pharmacies not only threaten the existence of the nearest regular pharmacies but also prevent young physicians from settling in rural districts, since the older physicians who possess house pharmacies put them at a disadvantage. There is to be, however, a new investigation to discover whether the need for house pharmacies still exists. The pharmacies of a given district will be required to make arrangements for supplying the population with a reliable drug service—Berlin Correspondent in *Journal A. M. A.*, September 20th.

The Association of Official Agricultural Chemists will be held at Washington, D. C., Hotel Raleigh, November 6th–8th. An interesting program, including many papers, has been prepared.

ADDITIONAL LIST OF REGISTRANTS AT THE MADISON A. PH. A. MEETING.

Many visitors at Madison did not enter their names in the Official Registration Book and the cards were received too late for publication.

ABRAMS, CLARICE A., Calumet, Mich.
ADAMS, W. D., MR. AND MRS., AND NIECE, Forney, Texas.
ADDINGTON, JUSTIN, W., Madison, Wis.
ADDINGTON, L. W., MRS., Madison, Wis.
ANDERSON, ROBERT C., Columbus, Ind.
ANDREWS, SOPHIE K., Baltimore, Md.
AVERY, CHAS. H., Pasadena, Calif.

BACON, DOROTHY H., Cleveland, Ohio.
BALLARD, C. W., MRS., Mt. Vernon, N. Y.
BARTLETT, K. A., MR. AND MRS., East Orange, N. J.
BAUER, J. C., MRS., Baltimore, Md.
BECKER, I. A., Chicago, Ill.
BERGMANN, F. H., Madison, Wis.
BEIRNE, HUGH P., New Haven, Conn.
BIBBINS, F. E., MRS., Indianapolis, Ind.
BIBBINS, RUTH, MISS, Indianapolis, Ind.
BINGHAM, WILLIAM E., Tuscaloosa, Ala.
BOWEN, J. L., MRS., Chicago, Ill.
BOWER, STRATTON W., Buffalo, N. Y.
BROWN, CLARENCE M., MRS., Columbus, Ohio.
BROWN, CHARLES E., Madison, Wis.
BUCH, HARRY H., Harrisburg, Pa.
BURLAGE, HENRY M., Chapel Hill, N. C.

CAIN, MIRIAM C., Seattle, Wash.
CASEY, J. B., Tishomingo, Okla.
CHARMLEY, CHAS. C., MR. AND MRS., Madison, Wis.
CHECHIK, SAMUEL R., Madison, Wis.
CHRISTENSEN, H. C., Chicago, Wis.
CLARK, RALPH W., MRS., Madison, Wis.
CONSIGNY, HARRY E., MR. AND MRS., Madison, Wis.
COOK, BRUCE S., Swarthmore, Pa.
COOK, THEODORE F., Swarthmore, Pa.
CREUTZ, FRED J., Wausa, Nebr.
CROCKETT, W. G., Richwood, Va.

DAY, WM. B., MR. AND MRS., Oak Park, Ill.
DAVIS, HENRY, MR. AND MRS., Madison, Wis.
DAVY, EDWARD D., MRS., Cleveland, Ohio.
DAVY, MARY CHRISTINE, Cleveland, Ohio.
DE KAY, GEO., MRS., Lafayette, Ind.
DOAK, GEORGE O., Madison, Wis.
DUBOIS, CHARLOTTE I., Garden City, N. Y.
DURHAM, GRACE R., Corunna, Mich.
DYE, CLAIR A., MRS., Columbus, Ohio.

EMANUEL, LOUIS, MRS., Pittsburgh, Pa.

FANTUS, B., MRS., Oak Park, Ill.
FINK, ROBERT D., Madison, Wis.
FINNERAN, JAMES, MRS., Everett, Mass.
FISCHELIS, ROBERT P., MRS., Trenton, N. J.
FORD, M. N., Columbus, Ohio.
FREERICKS, FRANK H., Cincinnati, Ohio.
FUHRMANN, CHAS. J., MRS., Washington, D. C.
FUNK, J. A. J., MR. AND MRS., Galveston, Ind.

GAYLE, JOHN W., Frankfort, Ky.
GLOVER, CLIFFORD C., Ann Arbor, Mich.
GLOVER, W. H., MRS., Lawrence, Mass.
GRIMM, H. J., MR. AND MRS., Madison, Wis.

HANKINS, W. MAXWELL, Daytona Beach, Fla.
HARRING, CARL G. A., Newton Center, Mass.
HARRIS, LOYD E., MRS., Norman, Okla.
HARWOOD, ARTHUR A., Valparaiso, Ind.
HAYMAN, LUCILLE B., MRS., Morgantown, W. Va.
HAYMAN, ALICE, Morgantown, W. Va.
HEBBERD, ARTHUR E., La Crosse, Wis.
HEIN, HENRY F., MRS., San Antonio, Texas.
HELMS, SAMUEL T., Baltimore, Md.
HENRY, BESSIE MAY, Laurel, Mich.
HOGSTAD, ANTON, JR., St. Louis, Mo.

JACOBS, MARION L., MRS., Chapel Hill, N. C.
JEPSON, P. J., MRS., Newton, Iowa.
JORDAN, C. B., MRS., La Fayette, Ind.
JUDD, CORNELIUS M., Rochester, Minn.
JUDISCH, GEORGE, Ames, Iowa.

KELLY, CHARLES U., New Orleans, La.
KELLY, E. F., Baltimore, Md.
KENDIG, H. EVERT, Chestnut Hill, Pa.
KING, A. H., MR. AND MRS., Manhattan, Kans.
KING, F. H., Delphos, Ohio.
KOTTE, NELLE C., Cincinnati, Ohio.
KRANTZ, J. C., JR., MRS., Baltimore, Md.
KREMERS, E., MR. AND MRS., Madison, Wis.
KUENZI, ERNEST G., Madison, Wis.
KUNDERT, TOM, Madison, Wis.

LAGROSSE, J., MR. AND MRS., Madison, Wis.
LAMPHERE, R. O., MR. AND MRS., Madison, Wis.
LAUGHLIN, JOHN D., Madison, Wis.
LEA, JAMES M., Danville, Va.
LEE, CHARLES O., MRS., Lafayette, Ind.
LEE, JOHN W., Washington, D. C.
LEIGH, BLANCHE W., Gainesville, Fla.
LLOYD, J. T., MR. AND MRS., Cincinnati, Ohio.
LOFGREN, FREDERICK V., Valparaiso, Ind.

MALLATT, A. F., MR. AND MRS., Madison, Wis.
MANSON, HELEN E., Hudson, Mass.
MCDOWELL, E. W., MR. AND MRS., Madison, Wis.
MEADS, WALTER F., MR. AND MRS., Des Moines, Iowa.
MEISSNER, F. W., MRS., La Porte, Ind.
MENGES, A. F., MRS., Madison, Wis.
MILNE, FRANK A., MR. AND MRS., Pratt, Kans.
MOTLEY, E. T., Columbia, S. C.
MULDOON, HUGH C., Pittsburgh, Pa.
MUNCH, JAMES C., Lansdowne, Pa.

NEWTON, HOWARD C., MR. AND MRS., AND DAUGHTERS, Omaha, Nebr.
NORDRUM, O. M., MRS., St. Paul, Minn.

O'DAY, DAVID W., Boulder, Colo.
OSOL, ARTHUR, MRS., Philadelphia, Pa.

PATELSKI, RAY A., Aurora, Ill.
PLAXCO, JAMES M., Due West, S. C.
PURDUM, WILLIAM A., Baltimore, Md.

RENNEBOHM, OSCAR, MRS., Madison, Wis.
RICHARDS, LEON W., MRS., Missoula, Mont.
RICHTMANN, MATILDA M., Madison, Wis.
RIEMENSCHNEIDER, JULIUS H., MR. AND MRS., Chicago.
ROACH, THOMAS, MR. AND MRS., AND DAUGHTER, Oklahoma City, Okla.
ROCCA, JOHN C., MR. AND MRS., Madison, Wis.
RODMAN, ROBERT W., Bloomfield, N. J.
ROSIN, JOSEPH, Rahway, N. J.
ROTHROCK, R. B., MRS., Evansville, Ind.
ROWE, LEWIS W., Detroit, Mich.
RUSSELL, O. E., MRS., Elkhart, Ind.

SCHAEFER, ELIZABETH K., Yonkers, N. Y.
SCHAEFER, F. C. A., Brooklyn, N. Y.
SCHLICHTING, HAROLD E., MRS., Lansing, Mich.
SCHNAIDT, H. J., MRS., Parkston, S. Dak.
SCHULTZ, R. C., Worland, Wyo.
SLAMA, LILLIAN, Baltimore, Md.
SONNENBURG, AMELIA A., Baltimore, Md.
SPEASE, EDWARD, MR. AND MRS., Cleveland, Ohio.
SPIELMAN, ELEANOR R., Baltimore, Md.
STEEN, ARTHUR L., Madison, Wis.
STEVENS, ELIZABETH B., Indianapolis, Ind.
STROUD, GERTRUDE R., Pittsburgh, Pa.

TAN, VIDAL A., Manila, P. I.
THAYER, J. R., Webster Groves, Mo.
THOMPSON, HOMER B., Oak Park, Ill.
TIEDEMAN, RUDOLPH J., Madison, Wis.
TURNER, P. R., MR. AND MRS., Marianna, Ark.

UHL, MARGARET H., Madison, Wis.
URBAN, LEOPOLD C., Milwaukee, Wis.

WALKER, PERCY S., Topeka, Kans.
WEAVER, E. E., San Antonio, Texas.
WEBSTER, G. L., MRS., Chicago, Ill.
WHELPLEY, LAURA E., St. Louis, Mo.
WHITNEY, H. A. K., MRS., Ann Arbor, Mich.
WILCOX, WAYLAND D., MR. AND MRS., Philadelphia, Pa.
WILHELMI, GEORGE, MR. AND MRS., Newport, Ky.
WILSON, ROBT. C., MRS., Athens, Ga.
WILLSON, FRANK E., MR. AND MRS., Detroit, Mich.
WOODSIDE, JOHN M., Philadelphia, Pa.

ZUFALL, C. J., MRS., West Lafayette, Ind.

SOCIETIES AND COLLEGES.

N. A. R. D. RESOLUTIONS.

The National Association of Retail Druggists adopted twenty-one resolutions, the more important of which are summaried by the *Drug Trade News* as follows: To aid the Government in preparing and enforcing NRA codes and to seek to incorporate in such codes provisions which will put the independent druggist on a sound business basis. To urge the NRA to include the right of contract in the retail drug code and to seek the continuation of the policy which now exempts professional men from the provisions of the highest code. To ask President Roosevelt that the selling provisions of the druggists' code allow for overhead and a reasonable net profit. To ask General Johnson to appoint small independent druggists as advisers to NRA officials in charge of the retail code. That the practice of wholesale druggists or manufacturers engaging directly or indirectly in the retail drug business be condemned. That the giving of full-sized packages to physicians as samples be condemned. That the practice of some manufacturers who mention only a few dealers in advertising where their preparations may be obtained be condemned. That after repeal of the 18th Amendment steps be taken to obtain alcohol for manufacturing purposes under the same conditions as obtained by the large manufacturer.

That efforts be made to stop manufacturers from granting wholesale rates to certain retailers.

OFFICERS.

The following officers were elected: *President*, Monte L. Powell, Denver, Colo.; *First Vice-President*, H. L. Chichester, Macon, Ga.; *Second Vice-President*, George C. Bingham, New York City; *Third Vice-President*, Zack Kerrigan, St. Louis, Mo.; *Secretary*, John W. Dargavel, Minneapolis, Minn.; *Treasurer*, Oscar Rennebohm, Madison, Wis.; Members of Executive Committee, *Chairman*, Harvey A. Henry, Los Angeles, Calif.; George L. Secord, Chicago, Ill.; John Witty, Portland, Ore.

OFFICERS OF FEDERAL WHOLESALE DRUGGISTS' ASSOCIATION.

H. J. Krupp, Philadelphia, was elected president of the Federal Wholesale Druggists' Association at its eighteenth annual convention. L. E. Selberlich, New York City, was elected *Vice-President;* G. A. Raab, Baltimore, was reelected *Treasurer;* R. E. L. Williamson was reelected *Secretary.*

The outlook for the wholesale drug trade was declared by officers and members of the Association to be favorable in general, and consensus appeared to be toward considerable optimism.

Details of plans for adjusting the affairs of members of the Association in accordance with the principles of the NRA formed an important part of the discussions in the meeting, which was well attended by a large number of members. Providence, R. I., was selected for the 1934 meeting.

NATIONAL WHOLESALE DRUGGISTS ASSOCIATION.

Disapproval of the proposed revision of the Federal Food and Drugs Act, on the ground that it would not improve the present Federal and State laws and would add confusion and expense, was expressed by the National Wholesale Druggists' Association. Among other resolutions, the following are summarized as follows: Recommended discontinuance of sale of 10-cent lines in pharmacies. Asked its members to instruct buyers and salesmanagers to support manufacturers whose policies protect the profit of wholesaler and retailer. Recommended that members refrain from selling drugstore merchandise to grocery stores in towns where drug stores are located. Reiterated stand that most satisfactory basis of compensating salesmen is a graduated rate of commission on total net sales. Authorized survey of all types of insurance, looking toward savings through centralized insurance if fifty members will coöperate in such survey.

NEW OFFICERS.

President, Henry D. Faxon, Kansas City, Mo. *Vice-Presidents*, J. Mahlon Buck, Philadelphia; J. B. McCormick, Pittsburgh; E. H. DeMoss, Louisville; C. H. Gertridge, Seattle; Kayton Smith, Savannah. *Members of the Board of Control* (three-year term), John C. Davis, Denver; Lee Wilson Hutchins, Grand Rapids, Mich.; Charles A. Loring, Boston; William J. Murray, Columbia, S. C.

The convention was presided over by President Carl F. G. Meyer. The assemblage was

welcomed by Thomas Taggart and Judge M. L. Fansler. Delegates from fifteen organizations in the drug trade were received, and the greetings of the pharmaceutical press were extended by Walter H. Cousins, Dallas, Texas.

Secretary E. L. Newcomb gave a detailed report on the year's activities of his office. Encouraging and informative reports were presented at the several sessions by the standing committees of the association. The suggestions and recommendations of the secretary and committees were considered by the Board of Control and found expression in the report of that body and in the resolutions.

The registration at the meeting totaled about 550.

White Sulphur Springs, W. Va., was selected as the place for the meeting next year.

MARYLAND ASSOCIATION.

A regional meeting of Maryland Pharmaceutical Association was held October 17th at Hagerstown. Dr. I. M. Wertz, Mayor of Hagerstown, welcomed the members at a Luncheon—the speakers were President L. V. Johnson and A. F. Ludwig, and response was made by Harry R. Rudy. Harry S. Harrison and A. F. Ludwig reported on the A. PH. A. Convention and L. M. Kantner, Aquilla Jackson and L. V. Johnson on the meeting of the N. A. R. D.

Other contributors to the program were: A. A. M. Dewing, on "Contacting the New Comer;" "Professional Pharmacy as I See It," S. L. Hilton; "Physio-Therapy Methods and Appliances," M. J. Fadgen; "Building Professional Pharmacy," Simon Solomon; "National Legislation," W. Bruce Philip; "U. S. P. and N. F. Publicity," Marvin J. Andrews.

C. W. Smith, NRA, Washington, addressed the meeting at the Dinner.

OBITUARY.

CHARLES C. PLITT.

Dr. Charles C. Plitt, member of the AMERICAN PHARMACEUTICAL ASSOCIATION and professor of Botany at the School of Pharmacy, University of Maryland, died at his home in Baltimore October 13th, after an illness extending over several months.

Dr. Plitt was born in Baltimore, May 6, 1869, and received his early education in the public schools of this city and a degree in pharmacy at the old Maryland College of Pharmacy in 1891. He was an instructor in Botany and General Science in the public schools of Baltimore and for many years taught at the City College. For a number of years he was part-time professor of Botany and Materia Medica at the School of Pharmacy and on the retirement of Dr. David R. M. Culbreth, Dr. Plitt was given full professorship.

Dr. Plitt's collection of lichens, which was considered among the first three collections in the United States, was presented by him to the Maryland Academy of Science.

Two years ago Dr. Plitt led a group of Johns Hopkins University students on a research expedition to Jamaica. For quite a number of years he headed a group of public school teachers on excursions into Maryland's fields and conducted similar groups of the Maryland Academy of Science on collecting expeditions throughout the state.

Dr. Plitt was a frequent contributor to periodicals and a member of the American Association for the Advancement of Science, of the Botanical Society of America, of the Ecological Society of America.

The deceased is survived by his widow and three sons, Walter, George T. and Allen R. Plitt.

WOODS A. CAPERTON.

Woods A. Caperton, for many years associated with Eli Lilly & Co., died from a heart attack on October 10th at his home in Indianapolis. He retired from active business July 1932, and following that Mr. and Mrs. Caperton took an extended tour through Europe and other parts of the world.

In a minor capacity Mr. Caperton was engaged with Behrens Drug Co. in Waco, and for a time with W. B. Morrison, retail pharmacist, of the same city. In 1902, he engaged with Eli Lilly & Co. as representative in Texas. Four years later he became Assistant Sales Manager at the home office; in 1912 he was promoted to the position of Sales Manager.

Mr. Caperton was well and favorably known in wholesale and manufacturing circles. He

was a member of a number of clubs and fraternities.

The deceased is survived by his widow, two daughters and one son.

GEORGE A. KELLY.

George A. Kelly, third vice-president of the George A. Kelly Co., wholesale druggists of Pittsburgh, was killed in an automobile accident October 8th. Mr. and Mrs. Kelly were returning from the meeting of the National Wholesale Druggists' Association at French Lick to spend a few days at Hot Springs. Their car left the road at a curve and plunged over an embankment, Mrs. Kelly died in a hospital on October 9th from injuries received in the crash.

Mr. Kelly was born in Pittsburgh, November 10, 1901, and was an alumnus of Princeton University. Mrs. Kelly was the daughter of the late Douglas Stewart, a former director of Carnegie Museum.

WILLEM STORM VAN LEEUWEN.

On July 13th there died in the prime of life one of the leading pharmacologists of Europe. Willem Storm van Leeuwen was born in Kampen, Holland, on December 7, 1882.

The earlier researches of Storm van Leeuwen dealt with anesthesia and narcosis. Another important earlier contribution was a study on the relation between the concentration and biological effect of drugs and poisons. This research led him into the fascinating field of synergism and antagonism of drug mixtures, in which he was a pioneer worker. In addition to miscellaneous researches on digitalis, belladonna, ergot, vitamins, etc., Professor Storm van Leeuwen devoted much of his time during the last decade to the study of asthma, hay fever and various forms of allergy. Here some of his most valuable contributions to medicine were made. He was one of the earliest investigators to emphasize the importance of air conditioning; that is, of freeing the air of all allergic particles in connection with the treatment of patients suffering from such diseases. Being interested not only in theoretic pharmacology but also in its practical applications to therapeutics, Storm van Leeuwen combined laboratory researches with clinical guests which he carried on in a private clinic of his own and also in the municipal hospital at Leiden. His studies on bronchial asthma and other allergic diseases led him into the domain of climatology and meteorology, so that in the last few years of his life he spent considerable time at Innsbruck, observing the effects of atmospheric electricity, ionized gases and various meteorological factors on physiological and pharmacological phenomena.

Professor Storm van Leeuwen's publications number more than 150, and fully half of them deal with various phases of anaphylaxis, allergy and allied conditions. Next in importance are his papers on synergism and antagonism of drugs. Other publications deal with the absorption of poisons, the influence of colloids on the action of drugs, the relation of avitaminosis to pharmacological action, the pharmacology of sulphur, salicylates, hypnotics, anesthetics, tuberculin and other drugs. He was also the author of several larger handbooks. The most important of these are his "General Pharmacology," written in Dutch, and his treatise on "Allergic Diseases," published in Dutch, German and English.—DAVID I. MACHT in *Science*.

A New Nomenclature of Chemistry.—Lyman Spalding—AMERICAN PHARMACEUTICAL ASSOCIATION, $1.00. When Lyman Spalding, known now as the Father of the United States Pharmacopœia, was lecturer on chemistry in Dartmouth University, he issued for the benefit of his students "A New Nomenclature of Chemistry Proposed by Messrs. De Morveau, Lavoisier, Berthollet and Fourcroy," with a few additions and improvements of his own. The AMERICAN PHARMACEUTICAL ASSOCIATION has now published a reproduction of the original 1796 leaflet of Spalding's. Students and teachers of chemistry or of pharmacy who are interested in the history of their sciences will welcome this little booklet, which retains the quaint flavor of the original in its typography.—*Science News Letter.*

The Journal of Chemical Education has accepted the generous invitation of the University of Chicago, extended through Julius Stieglitz, to occupy editorial quarters in Kent Chemical Laboratory at the university. The editor, Otto Reinmuth, expects to be fully installed in his new quarters immediately after the meeting of the American Chemical Society in Chicago. The business and publication offices of the JOURNAL will remain at the plant of the Mack Printing Co., Easton, Pa., as heretofore.

INDUSTRIAL RECOVERY ACT.

SCHEDULE "A"—*SUPPLEMENTAL PROVISIONS.*

Applicable to Retail Drug Establishments and to All Retailers Dealing in Drugs and Allied Products.

In addition to the foregoing[1] provisions of this Code, the following supplemental provisions shall apply to retail drug establishments and to all retailers dealing in drugs and allied products.

SECTION 1.

Definitions. (1) **Retail Drug Trade.**—The term "retail drug trade" as used herein shall mean all selling to the consumer and not for the purpose of resale in form of drugs, medicines, cosmetics, toilet preparations, drug sundries and/or allied items, in the continental United States excluding the Panama Canal Zone. It is provided, however, that the term "retail drug trade" shall not include the dispensing of drugs, medicines and medical supplies by a physician, dentist surgeon or veterinarian in the legitimate practice of his profession.

(2) **Drug Retailer.**—The term "drug dealer" as used herein shall mean any individual or organization engaged wholly or partially in the retail drug trade.

(3) **Retail Drug Establishment.**—The term "retail drug establishment" as used herein shall mean any store or department of a store engaged in the retail drug trade, but shall not include stores or departments in which the principal business is the selling at retail of products other than drugs, medicines, cosmetics, toilet preparations, drug sundries and/or allied items.

(4) **Drugs.**—The term "drug" as herein used shall mean all medicinal substances and preparations recognized in the U. S. Pharmacopœia and National Formulary or any supplements thereto, and all substances and preparations intended for external or internal use in the cure, mitigation, treatment or prevention of disease in man or other animals, and all substances and preparations other than food (but including medicinal/or quasi-medicinal preparations, such as those sold or produced primarily for their vitamin content) intended to affect the structure or any function of the body of man or other animals.

(5) **Cosmetics and Toilet Preparations.**—The term "cosmetics" and the term "toilet preparations" as used herein shall mean toilet articles and perfumes, toilet waters, face powders, face creams, rouges, shaving creams, dentifrices, soaps and similar substances and preparations designed and intended for application to the person for the purpose of cleaning, improving the appearance of, refreshing or preserving the person.

(6) **Drug Sundries.**—The term "drug sundries" as used herein shall mean such articles as are used in conjunction with but not included in "drugs," "cosmetics" or "toilet preparations."

(7) **Registered Pharmacist, Assistant Pharmacist, Apprentice Pharmacist.**—The terms "registered pharmacist," "assistant pharmacist" and "apprentice pharmacist" as used herein shall have the meaning given to them under the laws of the respective states of the United States and of Alaska.

(8) **Curb Boys or Girls.**—The term "curb boys or girls" as used herein shall mean employees engaged exclusively in serving curb customers.

[1] Code of Fair Competition for the Retail Trade as approved by the President, October 22, 1933. This has been published in the Press and not reprinted herein.

SECTION 2.

Store Hours and Hours of Labor. (1) **Group D, for Retail Drug Establishments.**—In place of any of the schedules of store hours and hours of labor set forth in Article V, Section 1, retail drug establishments may elect to remain open for business seven (7) days a week for a total of eighty-four (84) hours or more per week, but on no day for less than eight (8) hours; no employee of such establishment, except as provided in Article V, Sections 4 and 5, shall work more than fifty-six (56) hours per week, nor more than ten (10) hours per day, nor more than thirteen (13) days in any two consecutive weeks.

(2) **Exceptions in Case of Pharmacists.**—The maximum hours of labor prescribed in Article V and in paragraph (1) of this Section shall not apply to registered pharmacists, assistant pharmacists and apprentice pharmacists, employed and working as such, who may work ten (10) per cent above maximum hours otherwise applicable, or more in cases of emergency.

SECTION 3.

Wages. (1) **Basic Rates for Retail Drug Establishments Electing to Operate in Group D.**—No employee of a retail drug establishment which has elected to operate in Group D as set forth above, shall, except as provided in Article VI, Sections 2 and 3, be paid for a fifty-six (56) hour work week less than at the rate of $16 per week in cities of over 500,000 population, or less than at the rate of $15 per week in cities of from 100,000 to 500,000 population, or less than at the rate of $14 per week in cities of from 25,000 to 100,000 population; in cities, towns and villages of from 2500 to 25,000 population, the wages of all classes of employees of such establishments shall be increased from the rates existing on June 1, 1933, by not less than twenty (20) per cent, provided that this shall not require an increase in wages to more than the rate of $11 per week, and providing further that no employee shall be paid less than at the rate of $10 per week; in towns, villages and other places with less than 2500 population, the wages of all classes of employees of such establishments shall be increased from the rates existing on June 1, 1933, by not less than twenty (20) per cent, provided that this shall not require an increase in wages to more than the rate of $10 per week.

(2) **Exceptions for Establishments Employing Curb Boys or Girls.**—The minimum wages prescribed in Article VI and paragraph (1) of this Section may not apply to curb boys or girls employed by retail drug establishments when such employees are paid upon a commission basis.

SECTION 4.

Trade Practices.—In addition to the trade practices set forth in Article IX, all drug retailers shall comply with the following:

(*a*) No drug retailer shall substitute another article or any part thereof for the kind ordered, without due notice to and consent of the customer.

(*b*) No drug retailer shall advertise to fill prescriptions at a uniform price irrespective of cost of ingredients or quantity prescribed.

(*c*) No drug dealer shall permit any demonstrator or sales employee, whose salary is wholly or partially paid by a manufacturer or distributor, to work in his establishment unless such demonstrator or sales em-

ployee is clearly and openly identified as the agent of such manufacturer or distributor.

SECTION 5.

Administration.—The administration of this Code, including this Schedule, in so far as it relates to the retail drug trade shall be governed by the following provisions:

(1) **Retail Drug Trade Authority.**—The Retail Drug Trade Authority shall consist of Administrator or his deputy, and three members appointed by the President of the United States, who shall advise and assist the Administrator or his Deputy. Members of the Retail Drug Trade Authority shall be members, without vote, of the National Drug Trade Council, provided for hereinafter.

(2) **National Drug Trade Council. (a) Composition.**—The National Retail Drug Trade Council shall consist of one representative from the AMERICAN PHARMACEUTICAL ASSOCIATION, one representative from the Drug Institute of America, Incorporated, two representatives from the National Association of Retail Druggists and such representation from any national association of the retail drug trade as may be approved by the Administrator.

Such representatives shall be elected, in accordance with a fair method approved by the Administrator, by the respective national trade associations.

(b) **General Powers.**—The National Retail Drug Trade Council shall in addition to the specific powers herein conferred, have all general powers necessary to assist the Administrator or his deputy in the administration and enforcement of the Code in so far as it relates to the retail drug trade.

(c) **Reports and Investigations.**—The National Retail Drug Council shall, subject to the approval or upon request of the Administrator, require from all drug retailers such reports as are necessary to effectuate the purposes of this Code in so far as it relates to the retail drug trade, and may, upon its own initiative or upon complaint of any person affected, make investigation as to the functioning and observance of any provisions of the Code relating to the retail drug trade and report the results of such investigation to the Administrator.

(d) **Recommendations.**—The National Drug Trade Council may from time to time present to the Administrator recommendations (including interpretations), based on conditions in the retail drug trade, which will tend to effectuate the operation of the provisions of this Code, and the policy of the National Industrial Recovery Act. Such recommendations shall, upon approval by the Administrator, become operative as part of this Code.

(e) **Local Committees.**—The National Drug Trade Council shall, subject to the approval of the Administrator, supervise the setting up within local trading areas of local committees for the purpose of assisting in the administration and enforcement of this Code within such local areas in so far as it relates to the retail drug trade.

(f) **Expenses.**—The expenses of the National Drug Trade Council shall be equitably assessed and collected by the Council, subject to the approval of the Administrator.

(3) **Interpretation.**—The Administrator may from time to time, after consultation with the National Retail Drug Council, issue such administrative interpretations of the various provisions of this Code relating to the retail drug trade as are necessary to effectuate its purposes, and such interpretations shall become operative as part of this Code, unless the Administrator shall otherwise specify.

(4) **Exceptions in Cases of Unusual or Undue Hardship.**—Where the operation of the provisions of this Code imposes an unusual or undue hardship upon any drug retailer or group of drug retailers, such drug retailer or group of drug retailers may make application for relief to the Administrator or to his duly authorized agent, and the Administrator or his agent may grant such exception to or modification of the provision of this Code as may be required to effectuate the purposes of the National Industrial Recovery Act.

EXECUTIVE ORDER.

An application having been duly made, pursuant to and in full compliance with the provisions of Title I of the National Industrial Recovery Act, approved June 16, 1933, for my approval of a Code of Fair Competition for the Retail Trade, and hearings having been held thereon and the Administrator having rendered his report containing an analysis of the said Code of Fair Competition together with his recommendations and findings with respect thereto, and the Administrator having found that the said Code of Fair Competition complies in all respects with the pertinent provisions of Title I of said Act and that the requirements of clauses (1) and (2) of subsection (*a*) of Section 3 of said Act have been met; NOW, THEREFORE, Franklin D. Roosevelt, President of the United States, pursuant to the authority vested in me by Title I of the National Recovery Act, approved June 16, 1933, and otherwise, do adopt and approve the report, recommendations and findings of the Administrator and do order that the said Code of Fair Competition be and is hereby approved.

FRANKLIN D. ROOSEVELT, *President.*

Approval Recommended:

HUGH JOHNSON, *Administrator.*

The White House, October 22, 1933.

NOTE: Prompt action is being seriously considered to urge that changes be made in the provisions of Schedule "A," where they differ materially from the Code presented by the organizations representing pharmacy and the retail drug industries.

DRUG TRADE NAMES LISTED.

A list of trade names in use by members of the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers Association has been prepared under the auspices of the patent and trade-mark committees of the associations.

The purpose of the compilation is to furnish information in the preliminary consideration of new trade names. It has been revised to September 1st.

Copies may be obtained at 25 cents each from Carson P. Frailey, secretary of the American Drug Manufacturers' Association, Albee Building, Washington.